

**Underlying supplement no. 1-I**  
*To the prospectus dated April 17, 2026 and  
the prospectus supplement dated April 17, 2026*

**Registration Statement Nos. 333-293684 and 333-293684-01**  
**Dated April 17, 2026**  
**Rule 424(b)(2)**

## **JPMORGAN CHASE & CO.**

**Notes Linked to One or More Indices or Funds**

## **JPMORGAN CHASE FINANCIAL COMPANY LLC**

**Notes, Fully and Unconditionally Guaranteed by JPMorgan Chase & Co., Linked to One or More Indices or Funds**

Each of JPMorgan Chase & Co. and JPMorgan Chase Financial Company LLC may from time to time offer and sell notes that are linked to one or more indices (each, an “**Index**” and collectively, the “**Indices**”) or funds (each, a “**Fund**” and collectively, the “**Funds**”). This underlying supplement describes potential Indices and Funds to which the notes may be linked and other relevant information. The issuer of the notes, as specified in the relevant terms supplement, is referred to in this underlying supplement as the “**Issuer**.” The Issuer will be either JPMorgan Chase & Co. or JPMorgan Chase Financial Company LLC. For notes issued by JPMorgan Chase Financial Company LLC, JPMorgan Chase & Co., in its capacity as guarantor of those notes, is referred to in this product supplement as the “**Guarantor**.”

This underlying supplement supplements the terms described in the accompanying product supplement, the prospectus supplement and the prospectus. A separate term sheet or pricing supplement, as the case may be, will describe terms that apply to specific issuances of the notes, including any changes to description of any relevant Index or Fund specified below. These term sheets and pricing supplements are referred to generally in this underlying supplement as terms supplements. If the terms described in the relevant terms supplement are inconsistent with those described in this underlying supplement, any other accompanying underlying supplement, the accompanying product supplement, the prospectus supplement or the prospectus, the terms described in the relevant terms supplement will control. In addition, if this underlying supplement and the accompanying product supplement or another relevant underlying supplement contain information relating to the same Index or Fund to which the notes are linked, the information contained in the document with the most recent date will control.

**Investing in the notes involves a number of risks. See “Risk Factors” beginning on page S-2 of the prospectus supplement, “Risk Factors” in the accompanying product supplement and “Risk Factors” beginning on page US-1 of this underlying supplement.**

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of the notes or passed upon the accuracy or the adequacy of the relevant terms supplement, this underlying supplement, any other accompanying underlying supplement, the accompanying product supplement, the prospectus supplement or the prospectus. Any representation to the contrary is a criminal offense.

***The notes are not bank deposits, are not insured by the Federal Deposit Insurance Corporation or any other governmental agency, and are not obligations of, or guaranteed by, a bank.***

**J.P.Morgan**

April 17, 2026

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*Your investment in the notes will involve certain risks. Investing in the notes is not equivalent to investing in any of the Indices or Funds or any of their component securities, commodities, futures contracts or other assets or market measures. **You should consider carefully the discussion of risks included in the relevant terms supplement, the accompanying product supplement and any accompanying underlying supplement before you decide that an investment in the notes is appropriate for you.***

## EQUITY INDEX DESCRIPTIONS

### THE DOW JONES INDUSTRIAL AVERAGE®

All information contained in this underlying supplement regarding the Dow Jones Industrial Average®, including, without limitation, its make-up, method of calculation and changes in its components, has been derived from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by, S&P Dow Jones Indices LLC (“**S&P Dow Jones**”). The Dow Jones Industrial Average® is calculated, maintained and published by S&P Dow Jones. S&P Dow Jones has no obligation to continue to publish, and may discontinue the publication of, the Dow Jones Industrial Average®.

The Dow Jones Industrial Average® is reported by Bloomberg L.P. under the ticker symbol “INDU.”

The Dow Jones Industrial Average® is a price-weighted index that seeks to measure the performance of 30 U.S. blue-chip companies. The Dow Jones Industrial Average® includes constituents from a variety of sectors, excluding the Global Industry Classification Standard (“**GICS**™”) transportation industry group from the industrials sector and the utilities sector.

#### Calculation of the Dow Jones Industrial Average®

The Dow Jones Industrial Average® is price-weighted rather than market capitalization-weighted, which means that weightings are based only on changes in the stocks’ prices, rather than by both price changes and changes in the number of shares outstanding. The value of the Dow Jones Industrial Average® is the sum of the primary exchange prices of each of the 30 component stocks included in the Dow Jones Industrial Average® *divided* by a divisor. The divisor used to calculate the price-weighted average of the Dow Jones Industrial Average® is not simply the number of component stocks; rather, the divisor is adjusted to smooth out the effects of price-impacting corporate actions, including price adjustments, special dividends, stock splits and rights offerings. The index divisor will also adjust in the event of an addition to or deletion from the Dow Jones Industrial Average®.

#### Construction and Maintenance of the Dow Jones Industrial Average®

The index universe consists of securities in the S&P 500® Index, excluding stocks classified under GICS® code 2030 (Transportation) and 55 (Utilities). While stock selection is not governed by quantitative rules, a stock typically is added only if the company has an excellent reputation, demonstrates sustained growth and is of interest to a large number of investors. Since the Dow Jones Industrial Average® is price-weighted, the Averages Committee (as defined below) evaluates stock price when considering a company for inclusion. The Averages Committee monitors whether the highest-priced stock in the Dow Jones Industrial Average® has a price more than 10 times that of the lowest. Maintaining adequate sector representation within the Dow Jones Industrial Average® is also a consideration in the selection process for the Dow Jones Industrial Average®. Companies should be incorporated and headquartered in the United States, and a plurality of revenues should be derived from the United States.

Changes to the Dow Jones Industrial Average® are made on an as-needed basis. There is no annual or semi-annual reconstruction. Rather, changes in response to corporate actions and market developments can be made at any time. Constituent changes are typically announced one to five days before they are scheduled to be implemented.

*Multiple Share Classes.* Each company in the Dow Jones Industrial Average® is represented once by the primary listing, which is generally the most liquid share line.

*Other Adjustments.* In cases where there is no achievable market price for a stock being deleted, it can be removed at a zero or minimal price at the discretion of the Averages Committee, in recognition of the constraints faced by investors in trading bankrupt or suspended stocks.

The table below summarizes the treatment of certain corporate actions.

Corporate Action	Treatment
<b>Company addition/deletion</b>	<u>Addition Only</u> A stock is added to the Dow Jones Industrial Average® at a weight determined by the price of the added stock relative to all other index constituents. There is a divisor adjustment.
	<u>Deletion Only</u> The weights of all stocks in the Dow Jones Industrial Average® will proportionally change but relative weights will stay the same. The index divisor will change.
<b>Split/reverse split</b>	Stock price is adjusted by the split ratio. Shares outstanding are not adjusted by the split ratio. There is a divisor adjustment.
<b>Spin-off</b>	Any potential impacts on index constituents from a spin-off are evaluated by the Averages Committee on a case-by-case basis. The price of the parent company is adjusted to the price of the parent company <i>minus</i> (the price of the spun-off company/share exchange ratio). The index divisor adjusts simultaneously.
<b>Ordinary dividend</b>	When a company pays an ordinary cash dividend, the Dow Jones Industrial Average® does not make any adjustments to the price or shares of the stock. As a result, there are no divisor adjustments to the Dow Jones Industrial Average®.
<b>Special dividend</b>	The stock price is adjusted by the amount of the dividend. There is a divisor adjustment.
<b>Rights offering</b>	All rights offerings that are in the money on the ex-date are applied under the assumption the rights are fully subscribed. The stock price is adjusted by the value of the rights. There is a divisor adjustment.

### Governance of the Dow Jones Industrial Average®

The Dow Jones Industrial Average® is maintained by a committee, which is currently composed of three representatives of S&P Dow Jones and two representatives of The Wall Street Journal (the “**Averages Committee**”). The Averages Committee meets regularly. At each meeting, the Averages Committee reviews pending corporate actions that may affect index constituents, statistics comparing the composition of the Dow Jones Industrial Average® to the market, companies that are being considered as candidates for addition to the Dow Jones Industrial Average® and any significant market events. In addition, the Averages Committee may revise index policy covering rules for selecting companies, treatment of dividends, share counts or other matters.

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- **the accuracy or completeness of the DJIA or its data; or**
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## THE FTSE® CHINA 50 INDEX

All information contained in this underlying supplement regarding the FTSE China 50 Index, including, without limitation, its make-up, method of calculation and changes in its components, has been derived from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by, FTSE Russell. The FTSE China 50 Index is calculated, maintained and published by FTSE Russell. FTSE Russell has no obligation to continue to publish, and may discontinue the publication of, the FTSE China 50 Index.

The FTSE China 50 Index is designed to represent the performance of the Chinese companies that are listed on the Hong Kong Stock Exchange (the “**HKSE**”). The FTSE China 50 Index is reported by Bloomberg L.P. under the ticker symbol “XIN01.”

### Composition of the FTSE China 50 Index

The FTSE China 50 Index is currently based on the 50 largest and most liquid Chinese stocks (called “H” shares, “Red Chip” shares and “P Chip” shares), listed and trading on the HKSE. “H” shares are securities of companies incorporated in mainland China and traded on the HKSE. “Red Chip” shares are securities of companies incorporated outside mainland China that trade on the HKSE and that which are substantially owned directly or indirectly by mainland Chinese state entities and with the majority of their revenue or assets derived from mainland China. “P Chip” shares are securities of companies (other than a Red Chip company) incorporated outside mainland China that trade on the HKSE, with establishment and origins that demonstrate strong connections to the People’s Republic of China and with a majority of their revenue or assets derived from the People’s Republic of China.

### Inclusion Criteria

*Security Inclusion Criteria.* Currently, only H shares, P Chip shares and Red Chip shares are eligible for inclusion in the FTSE China 50 Index. Each constituent must also be a constituent of the FTSE All-World Index, a market capitalization-weighted index representing the performance of large- and mid-capitalization developed and emerging markets stocks covering 90-95% of the investable market capitalization globally. Non-constituent P Chip shares whose associated “N” shares are already included in the FTSE All-World Index will be eligible for inclusion in the FTSE China 50 Index at the next quarterly review after a minimum 3-month trading period, subject to satisfying all other FTSE All-World Index eligibility criteria. “N” shares are securities of companies incorporated inside or outside of mainland China and traded on the New York Stock Exchange, The Nasdaq Stock Market or the NYSE American, but controlled by mainland Chinese companies and individuals, with a majority of their revenue or assets derived from the People’s Republic of China.

*Company Inclusion Criteria.* The following are considered ineligible for inclusion in the FTSE China 50 Index:

- companies whose business is that of holding equity and other investments (e.g., investment trusts); and
- limited liability partnerships (LLP), limited partnerships (LP), master limited partnerships (MLP), limited liability companies (LLC) and business development companies (BDC)

Where a stapled unit comprises an eligible security and a non-eligible security (such as non-equity or an investment trust structure), the unit will not be eligible for inclusion.

### Screens Applied to Eligible Securities

Securities are screened based on investability, liquidity and trading history according to the following criteria:

*Investability.* Constituents of the FTSE China 50 Index are adjusted for free float and foreign ownership limits. Free float is calculated using available published information rounded to 12 decimal places. Companies with a free float of 5% or below are excluded from the FTSE China 50 Index, except

where the investable market capitalization of the security exceeds 10 times the FTSE Global Equity Index Series China regional inclusion percentage level, which is currently 0.10%. The restrictions placed on the equity holdings of foreigners in a company where these have been imposed by a government, regulatory authority or the company's constitution are also considered. In addition, FTSE considers company's "foreign headroom," defined as the percentage of shares available to foreign investors as a proportion of the company's foreign ownership limit ("FOL"), *i.e.* (FOL – foreign holdings)/FOL.

**Liquidity Screen.** Each security will be tested for liquidity on a semi-annual basis in March and September by calculation of its monthly median of daily trading volume as part of the FTSE All-World Index review. When calculating the median of daily trading volume of any security for a particular month, a minimum of 5 trading days in that month must exist, otherwise the month will be excluded from the test. For each month, the daily trading volume for each security is calculated as a percentage of the shares in issue for that day adjusted by the free float at the review cut-off date. These daily values are then ranked in descending order and the median is taken by selecting the value for the middle ranking day if there is an odd number of days and the mean of the middle two if there is an even number of days. Daily totals with zero trades are included in the ranking; therefore a security that fails to trade for more than half of the days in a month will have a zero median trading volume for that month. Any period of suspension will not be included in the test. The liquidity test will be applied on a pro-rata basis where the testing period is less than 12 months.

**Trading Screen.** Existing and non-constituent securities, which have not traded on 60 or more trading days during the past year (up to and including the review cut-off date), will not be eligible for index inclusion. Regular/ad-hoc market holidays and unscheduled market closures will not count towards the total; otherwise, the reason(s) for a security's non-trading will not be considered. All standard trading days will be incorporated within the calculation (Friday and Sundays as appropriate). Ad-hoc non-standard trading days will not be incorporated within the calculation. If a security does not have a full year of trading, the 60 day period will be pro-rated according to the number of available trading days passed since its listing. Where a pro-rata calculation is necessary, the number of available trading days on the underlying market during the previous year up to and including the review cut-off date will be used as the basis of the calculation. A security that has been removed from the FTSE China 50 Index as a result of this screen will only be re-considered for inclusion after a period of 12 months from its deletion. For the purposes of index eligibility, it will be treated as a new issue.

The FTSE China 50 Index is subject to the oversight of an advisory committee, the "**FTSE Russell Asia Pacific Regional Equity Advisory Committee.**" The FTSE Russell Asia Pacific Regional Equity Advisory Committee is responsible for undertaking the periodic review of the FTSE China 50 Index ground rules and for considering changes of the ground rules.

### Calculation of the FTSE China 50 Index

The FTSE China 50 Index is calculated by FTSE Russell using a free float index calculation methodology. The FTSE China 50 Index is calculated using the following formula:

$$\frac{\sum_{i=1}^N (p_i \times e_i \times s_i \times f_i \times c_i)}{d}$$

where "N" is the number of securities in the FTSE China 50 Index, "p<sub>i</sub>" is the latest trade price of the component security "i," "e<sub>i</sub>" is the exchange rate required to convert the security's home currency into the FTSE China 50 Index's base currency, "s<sub>i</sub>" is the number of shares of the security in issue, "f" is the free float factor published by FTSE, to be applied to such security to allow amendments to its weighting, "c<sub>i</sub>" is the capping factor published by FTSE Russell at the most recent quarterly review of the FTSE China 50 Index, and "d" is the divisor, a figure that represents the total issued share capital of the FTSE China 50 Index at the base date, which may be adjusted to allow for changes in the issued share capital of individual securities without distorting the FTSE China 50 Index. The capping factor serves to limit the weight of any individual company to no more than 9% of the FTSE China 50 Index and to limit the aggregate weight of all companies that have a weight greater than 4.5% to no more than 38% of the FTSE China 50 Index.

The FTSE China 50 Index uses actual trade prices for securities with local stock exchange quotations and Reuters real-time spot currency rates for its calculations. FTSE Russell excludes from free floating shares: (i) shares held by public companies or by non-listed subsidiaries of public companies; (ii) shares held by directors, senior executives and managers of the company and/or their families, direct relations or affiliated companies; (iii) shares held within employee share plans; (iv) government holdings; (v) shares subject to foreign ownership limits; (vi) shares held by strategic investors; (vii) shares subject to lock-in clauses (for the duration of the lock-up); (viii) shares that are subject to on-going contractual agreements (such as swaps) where they would ordinarily be treated as restricted; (ix) shares that are non-negotiable which are held by companies that have not converted these shares following the A Share reform and (x) non-tradable A Shares subject to a lock-in (until the lock-in expires and the shares are freely tradable on the exchange).

Free float is calculated using available published information rounded up to 12 decimal places. Companies with a free float of 5% or below are excluded from the FTSE China 50 Index, except where the investable market capitalization of the security exceeds 10 times the FTSE Global Equity Index Series China regional inclusion percentage level, which is currently 0.10%. In June, a constituent's free float will be updated regardless of size. No buffers are applied.

Foreign ownership limits, if any, are applied after calculating the free float restriction. If the foreign ownership limit is more restrictive than the free float restriction, the precise foreign ownership limit is applied. If the foreign ownership limit is less restrictive or equal to the free float restriction, the free float restriction is applied.

The FTSE China 50 Index is periodically reviewed for changes in free float. These reviews coincide with the quarterly reviews undertaken of the FTSE China 50 Index. The constituents will be reviewed using data from the close of business on the Monday following the third Friday in February, May, August and November. Where there is a market holiday in either China or Hong Kong on the Monday following the third Friday, the close of business on the last trading day prior to the Monday after the third Friday, where both markets are open, will be used. Implementation of any changes takes place at the close of trading on the third Friday in March, June, September and December. A stock's free float is also reviewed and adjusted if necessary following certain corporate events. If the corporate event includes a corporate action which affects the FTSE China 50 Index, any change in free float is implemented at the same time as the corporate action. If there is no corporate action, the change in free float is applied as soon as practicable after the corporate event.

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The FTSE® 100 Index is an index calculated, published and disseminated by FTSE, a wholly owned subsidiary of London Stock Exchange Group plc (the “**LSEG**”). The FTSE® 100 Index measures the composite price performance of the 100 largest U.K. companies (determined on the basis of market capitalization) traded on the London Stock Exchange (the “**LSE**”). Publication of the FTSE® 100 Index began in January 1984. The FTSE® 100 Index is reported by Bloomberg L.P. under the ticker symbol “UKX.”

### Composition of the FTSE® 100 Index

The 100 stocks included in the FTSE® 100 Index (the “**FTSE Underlying Stocks**”) are selected from a reference group of stocks of U.K. companies trading on the LSE that are selected by excluding certain stocks that have low liquidity, free float or price reliability or a low percentage of voting rights in the hands of unrestricted shareholders. To determine the index membership, all companies with eligible securities are ranked by their full market capitalization (*i.e.*, before the application of any investability weightings). Only the listed equity shares of a company are included in the calculation of its market capitalization. Where a company has two or more classes of listed equity shares, the secondary lines are included in the calculation of the market capitalization of the company, based on the market price of that secondary line. The FTSE Underlying Stocks are selected from this reference group by selecting 100 stocks with the largest market value.

A company will be considered a U.K. company if it is U.K. incorporated, it has its sole listing in the U.K. and its stock has a minimum free float of 10%. If a company is not incorporated in the U.K., the company will be eligible to be considered a U.K. company if it publicly acknowledges adherence to the principles of the U.K. Corporate Governance Code, pre-emption rights and the U.K. Takeover Code, as far as practicable, and its stock has a minimum free float of 25%. A company will be allocated to a single country. Where the company has a dual class structure, the minimum free float will be calculated at individual security level.

Companies are required to have greater than 5% of the company’s voting rights (aggregated across all of its equity securities, including, where identifiable, those that are not listed or trading) in the hands of unrestricted shareholders in order to be eligible for index inclusion. The voting rights screen is applied to any potential new constituents on a quarterly basis, and existing constituents will be tested on an annual basis in conjunction with the June review.

The FTSE® 100 Index is overseen and reviewed quarterly by the FTSE Russell Europe, Middle East & Africa Regional Equity Advisory Committee (the “**Index Steering Committee**”) in order to maintain continuity in the level. The Index Steering Committee undertakes the reviews of the FTSE® 100 Index and ensures that constituent changes and index calculations are made in accordance with the ground rules of the FTSE® 100 Index. The FTSE® 100 Index is reviewed on a quarterly basis in March, June, September and December. Each review is based on data from the close of business on the Tuesday before the first Friday of the review month. Any constituent changes are implemented after the close of business on the third Friday of the review month (*i.e.*, effective Monday), following the expiry of the ICE Futures Europe futures and options contracts.

The FTSE Underlying Stocks may be replaced, if necessary, in accordance with deletion/addition rules that provide generally for the removal and replacement of a stock from the FTSE® 100 Index if such stock is delisted, ceases to have a firm quotation or its issuer is subject to a takeover offer that has been declared unconditional with bidders’ shareholding reaching at least 75% and irrevocably accepted for payment (the minimum required to approve the cancellation of a listing on the London Stock Exchange),

or it has ceased, in the opinion of the Index Steering Committee, to be a viable component of the FTSE® 100 Index. To maintain continuity, a stock will be added at the quarterly review if it has risen to 90th place or above and a stock will be deleted if at the quarterly review it has fallen to 111th place or below, in each case ranked on the basis of market capitalization. A constant number of constituents will be maintained for the FTSE® 100 Index. Where a greater number of companies qualify to be inserted in the FTSE® 100 Index than those qualifying to be deleted, the lowest ranking constituents presently included in the FTSE® 100 Index will be deleted to ensure that an equal number of companies are inserted and deleted at the periodic review. Likewise, where a greater number of companies qualify to be deleted than those qualifying to be inserted, the securities of the highest ranking companies which are presently not included in the FTSE® 100 Index will be inserted to match the number of companies being deleted at the periodic review.

Companies that are large enough to be constituents of the FTSE® 100 Index but do not pass the liquidity test are excluded. They will remain ineligible until the next annual review in June when they will be re-tested against all eligibility screens.

### **Calculation of the FTSE® 100 Index**

The FTSE® 100 Index is an arithmetic weighted index where the weights are the market capitalization of each company. The FTSE® 100 Index is calculated by summing the free float-adjusted market values (or capitalizations) of all companies within the FTSE® 100 Index divided by the divisor. On the base date, the divisor is calculated as the sum of the market capitalizations of the index constituents divided by the initial index value of 1,000. The divisor is subsequently adjusted for any capital changes in the index constituents. In order to prevent discontinuities in the FTSE® 100 Index in the event of a corporate action or change in constituents, it is necessary to make an adjustment to the prices used to calculate the FTSE® 100 Index to ensure that the change in the FTSE® 100 Index between two consecutive dates reflects only market movements rather than including change due to the impact of corporate actions or constituent changes. This ensures that the index values remain comparable over time and that changes in the index level properly reflect the change in value of a portfolio of index constituents with weights the same as in the FTSE® 100 Index.

### **Corporate Events Affecting the FTSE® 100 Index**

FTSE Russell applies corporate actions to the FTSE® 100 Index on a daily basis. FTSE Russell has stated as general principles that the treatment of corporate events (a) should reflect how such events are likely to be dealt with in investment portfolios to maintain the portfolio structure in line with the target set out in the index objective and index methodology and (b) should normally be designed to minimize the trading activity required by investors to match the index performance. No assurance can be provided that corporate actions and events will be treated by FTSE Russell in a manner consistent with its statement of general principles.

In addition, FTSE Russell has established guidance for the treatment of corporation actions and events, including, but not limited to, dividends, capital repayments, companies converting to a REIT structure, share buybacks, rights issues, mergers, acquisitions, tender offers, split-offs, spin-offs, bankruptcies, insolvencies, liquidations and trading suspensions. However, because of the complexities involved in some cases, those guidelines are not definitive rules that will determine FTSE Russell's actions in all circumstances. FTSE Russell reserves the right to determine the most appropriate method of implementation for any corporate event which is not covered by those guidelines or which is of a complex nature.

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## THE MSCI INDICES

All information contained in this underlying supplement regarding the MSCI ACWI Index, the MSCI EAFE<sup>®</sup> Index, the MSCI Emerging Markets Index, the MSCI Europe Index and the MSCI World Index<sup>SM</sup> (each, an “**MSCI Index**” and collectively, the “**MSCI Indices**”), including, without limitation, their make-up, method of calculation and changes in their components, has been derived from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by, MSCI Inc. (“**MSCI**”). The MSCI Indices are calculated, maintained and published by MSCI. MSCI has no obligation to continue to publish, and may discontinue publication of, any of the MSCI Indices.

### The MSCI ACWI Index

The MSCI ACWI Index is a free float-adjusted market capitalization index that is designed to measure the performance of the large- and mid-cap segments of global emerging markets and certain developed markets. The MSCI ACWI Index currently consists of the following 23 developed market country indices and 24 emerging market country indices: developed market countries include Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Hong Kong, Ireland, Israel, Italy, Japan, the Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, the United Kingdom and the United States; emerging market countries include Brazil, Chile, China, Colombia, Czech Republic, Egypt, Greece, Hungary, India, Indonesia, Korea, Kuwait, Malaysia, Mexico, Peru, Philippines, Poland, Qatar, Saudi Arabia, South Africa, Taiwan, Thailand, Turkey and the United Arab Emirates. The MSCI ACWI Index covers approximately 85% of global investable equities. The U.S. dollar price return version of the MSCI ACWI Index is reported by Bloomberg L.P. under the ticker symbol “MXWD.”

### The MSCI EAFE<sup>®</sup> Index

The MSCI EAFE<sup>®</sup> Index is a free float-adjusted market capitalization index that is designed to measure the equity market performance of the large- and mid-cap segments of certain developed markets, excluding the United States and Canada. The MSCI EAFE<sup>®</sup> Index currently consists of the following 21 developed market country indices: Australia, Austria, Belgium, Denmark, Finland, France, Germany, Hong Kong, Ireland, Israel, Italy, Japan, the Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland and the United Kingdom. The MSCI EAFE<sup>®</sup> Index covers approximately 85% of the free float-adjusted market capitalization in each country. The U.S. dollar price return version of the MSCI EAFE<sup>®</sup> Index is reported by Bloomberg L.P. under the ticker symbol “MXEA.”

### The MSCI Emerging Markets Index

The MSCI Emerging Markets Index is a free float-adjusted market capitalization index that is designed to measure the equity market performance of the large- and mid-cap segments of global emerging markets. The MSCI Emerging Markets Index currently consists of the following 24 emerging market country indices: Brazil, Chile, China, Colombia, Czech Republic, Egypt, Greece, Hungary, India, Indonesia, Korea, Kuwait, Malaysia, Mexico, Peru, Philippines, Poland, Qatar, Saudi Arabia, South Africa, Taiwan, Thailand, Turkey and the United Arab Emirates. As of June 2018, the MSCI Emerging Markets Index includes shares traded on mainland Chinese exchanges, referred to as A-shares. The MSCI Emerging Markets Index covers approximately 85% of the free float-adjusted market capitalization in each country. The U.S. dollar price return version of the MSCI Emerging Markets Index is reported by Bloomberg L.P. under the ticker symbol “MXEF.”

### The MSCI Europe Index

The MSCI Europe Index is a free float-adjusted market capitalization index that is designed to measure the equity market performance of the large- and mid-cap segments of certain developed markets in Europe. The MSCI Europe Index currently consists of the following 15 developed market country indices: Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom. The MSCI Europe Index covers approximately 85% of the free float-adjusted market capitalization in the European developed markets

equity universe. The euro price return version of the MSCI Europe Index is reported by Bloomberg L.P. under the ticker symbol “MXEU.”

### **The MSCI World Index<sup>SM</sup>**

The MSCI World Index<sup>SM</sup> is a free float-adjusted market capitalization index that is designed to measure the equity market performance of the large- and mid-cap segments of certain developed markets. The MSCI World Index<sup>SM</sup> currently consists of the following 23 developed market country indices: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Hong Kong, Ireland, Israel, Italy, Japan, the Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, the United Kingdom and the United States. The MSCI World Index<sup>SM</sup> covers approximately 85% of the free float-adjusted market capitalization in each country. The U.S. dollar price return version of the MSCI World Index<sup>SM</sup> is reported by Bloomberg L.P. under the ticker symbol “MXWO.”

### **Constructing the MSCI Global Investable Market Indices**

The MSCI Global Investable Market Indices are constructed and maintained at an individual market level. MSCI undertakes an index construction process that, with respect to the MSCI Global Investable Market Indices, involves: (i) defining the equity universe for each market; (ii) determining the market investable equity universe for each market; (iii) determining market capitalization size segments for each market and (iv) applying index continuity rules for the Standard Index (as defined below).

#### *Defining the Equity Universe*

- (i) **Identifying Eligible Equity Securities:** All listed equity securities, including REITs and certain income trusts listed in Canada, are eligible for inclusion in the equity universe. Limited partnerships, limited liability companies and business trusts, which are listed in the United States and are not structured to be taxed as limited partnerships, are likewise eligible for inclusion in the equity universe. Conversely, mutual funds, exchange-traded funds, equity derivatives and most investment trusts are not eligible for inclusion in the equity universe. Preferred shares that exhibit characteristics of equity securities are eligible. Stapled securities are considered eligible if each of the underlying components exhibit characteristics of equity securities.
- (ii) **Country Classification of Eligible Securities:** Each company and its securities (i.e., share classes) is classified in one and only one country, which allows for a distinctive sorting of each company by its respective country. All securities in the equity universe classified into a developed market (“**DM**”) make up the DM equity universe while all securities in the equity universe classified into an emerging market (“**EM**”) make up the EM equity universe. Additionally, all securities in the equity universe classified into a frontier market (“**FM**”) make up the FM equity universe.

#### *Determining the Market Investable Equity Universes*

A market investable equity universe for a market is derived by (i) identifying eligible listings for each security in the equity universe and (ii) applying investability screens to individual companies and securities in the equity universe that are classified in that market. A market is equivalent to a single country, except in DM Europe, where all DM countries in Europe are aggregated into a single market for index construction purposes. Subsequently, individual DM Europe country indices within the MSCI Europe Index are derived from the constituents of the MSCI Europe Index under the Global Investable Market Indices methodology. The global investable equity universe is the aggregation of all market investable equity universes. The DM investable equity universe is the aggregation of all the market investable equity universes for developed markets.

- (i) **Identifying Eligible Listings:** A security may have a listing in the country where it is classified (a “**local listing**”) and/or in a different country (a “**foreign listing**”). A security may be represented by either a local listing or a foreign listing (including a depositary receipt) in the global investable equity universe as determined by MSCI.
- (ii) **Applying Investability Screens:** Some of the investability requirements are applied at the individual security level and some at the overall company level, represented by the aggregation of

individual securities of the company. As such, the inclusion or exclusion of one security does not imply the automatic inclusion or exclusion of other securities of the same company.

The investability screens used to determine the investable equity universe in each market are as follows:

- (a) **Equity Universe Minimum Size Requirement:** This investability screen is applied at the company level. In order to be included in a market investable equity universe, a company must have the required minimum full market capitalization. A company will meet this requirement if its cumulative free float-adjusted market capitalization coverage is within the top 99% of the equity universe sorted in descending order by full market capitalization.
- (b) **Equity Universe Minimum Free Float-Adjusted Market Capitalization Requirement:** This investability screen is applied at the individual security level. To be eligible for inclusion in a market investable equity universe, a security must have a free float-adjusted market capitalization equal to or higher than 50% of the equity universe minimum size requirement.
- (c) **DM and EM Minimum Liquidity Requirement:** This investability screen is applied at the individual security level. To be eligible for inclusion in a market investable equity universe, a security must have at least one eligible listing that has adequate liquidity as measured by the annualized traded value ratio (“**ATVR**”) and the frequency of trading. In addition to the ATVR and frequency of trading requirements, securities in the MSCI China equity universe will not be eligible for inclusion in the market investable equity universe if the securities are suspended on the price cutoff date of the index review or have been suspended for 50 consecutive business days or more in the past 12 months.

Only one listing per security may be included in the market investable equity universe. In instances when a security has two or more eligible listings that meet the above liquidity requirements, then the following priority rules are used to determine which listing will be used for potential inclusion of the security in the market investable equity universe: (i) local listing; (ii) foreign listing in the same geographical region and (iii) foreign listing in a different geographical region.

- (d) **Global Minimum Foreign Inclusion Factor Requirement:** This investability screen is applied at the individual security level. To be eligible for inclusion in a market investable equity universe, a security’s foreign inclusion factor (“**FIF**”) must reach a certain threshold. The FIF of a security is defined as the proportion of shares outstanding that is available for purchase in the public equity markets by international investors. This proportion accounts for the available free float of and/or the foreign ownership limits applicable to a specific security (or company). In general, a security must have an FIF equal to or larger than 0.15 to be eligible for inclusion in a market investable equity universe. Exceptions to this general rule are made only in the limited cases where the exclusion of securities of a very large company would compromise the Standard Index’s ability to fully and fairly represent the characteristics of the underlying market.
- (e) **Minimum Length of Trading Requirement:** This investability screen is applied at the individual security level. For an initial public offering (“**IPO**”) to be eligible for inclusion in a market investable equity universe, the new issue must have started trading at least three months before the implementation of an index review. This requirement is applicable to small new issues in all markets. Large IPOs and large primary/secondary offerings of non-index constituents are not subject to this requirement and may be included in a market investable equity universe and the Standard Index outside of an index review.
- (f) **Minimum Foreign Room Requirement:** This investability screen is applied at the individual security level. For a security that is subject to a foreign ownership limit to be eligible for inclusion in a market investable equity universe, the proportion of shares still available to foreign investors relative to the maximum allowed (referred to as “**foreign room**”) must be at least 15%.

- (g) Financial Reporting Requirement: This investability screen is applied at the company level. Companies classified in the United States must file a Form 10-K/10-Q to be eligible for inclusion in the United States investable equity universe.

#### *Defining Market Capitalization Size Segments for Each Market*

Once a market investable equity universe is defined, it is segmented into the following size-based indices (each, a “**Size Segment Index**”), with the following free float-adjusted market capitalization market coverage target ranges:

- (i) Investable Market Index (Large + Mid + Small): 99%+1% or -0.5%
- (ii) Standard Index (Large + Mid): 85% ± 5%
- (iii) Large Cap Index: 70% ± 5%
- (iv) Mid Cap Index: The Mid Cap Index market coverage in each market is derived as the difference between the market coverage of the Standard Index and the Large Cap Index in that market.
- (v) Small Cap Index: The Small Cap Index market coverage in each market is derived as the difference between the free float-adjusted market capitalization coverage of the Investable Market Index and the Standard Index in that market.

Additional size segment investability requirements are set for the Investable Market and the Standard Indices. For instance, securities that exhibit extreme price increase will not be eligible for addition into the Standard Index but will continue to be considered as part of the market investable equity universe. These securities will be re-evaluated for Standard Index inclusion at the subsequent index review using Standard Index inclusion criteria, including the applicable return-based thresholds for extreme price increase. MSCI will evaluate the 5-day to 60-day excess returns, in increments of 5 days, as of the price cutoff date of the index review, for additions to the Standard Indices. Excess return is calculated as the difference between the return of a security for the relevant period and the average return of Investable Market Index constituents belonging to the same country-sector where the security is classified (in terms of country of classification and GICS® classification at the sector level). For country-sectors that have five or fewer Investable Market Index constituents, the relevant country Investable Market Index return is used instead. IPOs that do not meet the minimum length of trading requirement but meet all other criteria for Standard Index inclusion are not subject to this requirement.

#### *Index Continuity Rules for the Standard Indices*

In order to achieve index continuity, as well as provide some basic level of diversification within a market index, notwithstanding the effect of other index construction rules, a minimum number of five constituents will be maintained for a DM Standard Index and a minimum number of three constituents will be maintained for an EM Standard Index.

If, after the application of the index construction methodology, a Standard Index contains fewer than five securities in a DM or three securities in an EM, then the largest securities by free float-adjusted market capitalization among the securities included in the market investable equity universe are added to the Standard Index in order to reach five constituents in that DM or three in that EM. At subsequent index reviews, if, after the application of the index maintenance methodology, a Standard Index contains less than five securities in a DM or three securities in an EM, then the remaining securities are selected for inclusion by ranking those securities by descending free float-adjusted market capitalization and multiplying the free float-adjusted market capitalization of such securities by a factor of 1.5.

#### *Constructing and Calculating the Individual MSCI Global Investable Market Indices*

After companies are allocated to their respective size segments and securities are reviewed for complying with the final size-segment requirements, the final list of constituents for each Size Segment Index is determined. The MSCI Investable Market Indices are composed of the MSCI Standard Indices and the MSCI Small Cap Indices. The MSCI Standard Indices are further subdivided into the MSCI Large

Cap and the MSCI Mid Cap Indices. Two or more market indices can be combined to form composite indices. Market indices can be grouped either on the basis of market classification definition, geographical regions, economic regions or other criteria.

### **Maintenance of the MSCI Global Investable Market Indices**

The MSCI Global Investable Market Indices are maintained with the objective of reflecting the evolution of the underlying equity markets and segments on a timely basis, while seeking to achieve index continuity, continuous investability of constituents and replicability of the indices and index stability and low index turnover.

In particular, index maintenance involves quarterly index reviews in February, May, August and November of the Size Segment Indices which includes updating the indices on the basis of a fully refreshed equity universe; taking buffer rules into consideration for migration of securities across size and style segments and updating FIFs and number of shares.

In addition, ongoing event-related changes to the indices are the result of mergers, acquisitions, spin-offs, bankruptcies, reorganizations and other similar corporate events. They can also result from capital reorganizations in the form of rights issues, bonus issues, public placements and other similar corporate actions that take place on a continuing basis. These changes generally are reflected in the indices at the time of the event. Significantly large IPOs are included in the indices after the close of the company's tenth day of trading.

### **Index Calculation**

The MSCI Indices are calculated using the Laspeyres' concept of a weighted arithmetic average together with the concept of chain-linking. As a general principle, today's index level is obtained by applying the change in the market performance to the previous period index level.

### **Treatment of Investment Sanctions Related to U.S. Executive Order 13959**

The U.S. Executive Order 13959 dated November 12, 2020 which prohibits transactions by U.S. persons in certain Chinese companies (the "**Order**"), along with clarification from the Office of Foreign Assets Control ("**OFAC**"), results in the deletion from/non-inclusion in the MSCI Global Investable Market Indices of relevant impacted securities.

On January 5, 8 and 26, 2021, MSCI deleted securities impacted by the Order from the MSCI Global Investable Market Indices. Following the amendment of the Order on June 3, 2021, OFAC has published the Non-SDN Chinese Military-Industrial Complex Companies List (the "**NS-CMIC List**") and related security tickers. MSCI deleted the securities included in OFAC's NS-CMIC List from the MSCI Global Investable Market Indices as of the close of July 26, 2021.

MSCI continues to monitor for updates to the NS-CMIC List and related security tickers impacted by the Order. Furthermore, securities that are not included in the NS-CMIC List but belong to the same issuer as a security already included in the NS-CMIC List will also be considered impacted by the Order.

Securities impacted by the Order are considered to be ineligible for inclusion in the MSCI Global Investable Market Indices. Securities that are impacted by the Order that are assigned to a size segment will have an adjustment factor of 0 applied and hence will not be included in the relevant Size Segment Indices. Existing index constituents impacted by the Order will be deleted from the MSCI Global Investable Market Indices. At the time of their deletion from the MSCI Global Investable Market Indices, the securities will be retained in their existing size segment and will continue to be included in the market investable equity universe.

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## THE NASDAQ-100 INDEX®

All information contained in this underlying supplement regarding the Nasdaq-100 Index®, including, without limitation, its make-up, method of calculation and changes in its components, has been derived from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by, Nasdaq, Inc. (“**Nasdaq**”). The Nasdaq-100 Index® is calculated, maintained and published by Nasdaq. Nasdaq has no obligation to continue to publish, and may discontinue the publication of, the Nasdaq-100 Index®.

The Nasdaq-100 Index® is a modified market capitalization-weighted index that is designed to measure the performance of 100 of the largest non-financial companies listed on The Nasdaq Stock Market. The Nasdaq-100 Index®, which includes companies across a variety of major industry groups, was launched on January 31, 1985, with a base index value of 125.00, as adjusted. The Nasdaq-100 Index® is reported by Bloomberg L.P. under the ticker symbol “NDX.”

The index share weights of the component securities of the Nasdaq-100 Index® at any time are based upon the total shares outstanding (“**TSO**”) in each of those securities and are additionally subject, in certain cases, to rebalancing. Accordingly, each security’s influence on the level of the Nasdaq-100 Index® is directly proportional to the value of its index share weight.

### Calculation of the Nasdaq-100 Index®

At any moment in time, the value of the Nasdaq-100 Index® equals the aggregate value of the then-current index share weights of each of the Nasdaq-100 Index® component securities, which are based on the TSO of each such Nasdaq-100 Index® component security, multiplied by each such security’s respective last sale price on The Nasdaq Stock Market (which may be the official closing price published by The Nasdaq Stock Market) and divided by a scaling factor (the “**Divisor**”), which becomes the basis for the reported Nasdaq-100 Index® value. The Divisor serves the purpose of scaling such aggregate value to a lower order of magnitude which is more desirable for index reporting purposes.

### Security Eligibility Criteria

To qualify for index inclusion, securities must meet the following Security Eligibility Criteria, which are applied as of the reconstitution reference date.

Eligible security types include common stocks, tracking stocks and American depositary receipts, including New York Registry Shares. Companies organized as real estate investment trusts (“**REITs**”), Special Purpose Acquisition Companies (“**SPACs**”) and “when-issued” securities are not eligible for index inclusion.

If an issuer has listed multiple security classes, all security classes are eligible, subject to meeting all other security eligibility criteria. For constituent selection and weighting purposes, the market capitalization of each company is the combined market capitalization of all eligible share classes. Unlisted share classes are generally ineligible and will not be considered in the calculation of a company’s market capitalization.

The issuer of the security’s primary U.S. listing must exclusively be listed on the Nasdaq Global Select Market or the Nasdaq Global Market.

The issuer of the security must not be classified as being in the financial industry according to the Industry Classification Benchmark (the “**ICB**”). Companies classified as being in the real estate industry by the ICB are eligible for inclusion unless organized as a REIT.

There is no minimum or maximum market capitalization eligibility criterion, although the security selection process is based in part on a ranking of companies by market capitalization. A security must have a three-month average daily traded value of at least \$5,000,000.

To be eligible for initial index inclusion, a security must have been listed and available for trading on an eligible exchange for at least three full calendar months, not including the month of initial listing. For

seasoning purposes, eligible exchanges include Nasdaq (Nasdaq Global Select Market, Nasdaq Global Market, or Nasdaq Capital Market), NYSE, NYSE American and Cboe BZX. Seasoning eligibility is determined as of the constituent selection reference date and includes that month, therefore:

- To be considered for inclusion at the annual December reconstitution, a security must have been listed and available for trading on an eligible exchange no later than the last business day of August, with seasoning occurring over the months of September, October, and November.
- To be considered for inclusion as a replacement, a security must be seasoned by the last day of the month preceding the replacement event. For example, if a replacement event were to occur in July, the required seasoning period would include all of April, May, and June.

The trading history of a SPAC prior to its combination with an operating company will not count towards satisfying the seasoning requirement, regardless of whether the SPAC is determined to be the acquirer or the target in the transaction. Any security that is already a member of the Nasdaq-100 Index<sup>®</sup>, including those added as the result of a spin-off event, will be exempt from the seasoning requirement.

A security must have a free float of at least 10%.

Companies that have filed for bankruptcy or equivalent protection from creditors will not be considered for initial inclusion in the index.

A company that has entered into a definitive agreement or other arrangement that is expected to make it ineligible will not be considered for initial inclusion in the index. Such agreements or arrangements include, but are not limited to, an agreement to be purchased by another entity or to become privately owned, a plan to delist or to transfer to an ineligible exchange, a plan to reorganize as an ineligible security type or a decision to liquidate or otherwise permanently cease operations.

### **Reconstitution and Rebalancing of the Nasdaq-100 Index<sup>®</sup>**

Nasdaq selects constituents once annually in December. The reconstitution reference date is the last trading day of November. Index reconstitutions are announced after market close on the second Friday in December and become effective at market open on the first trading day following the third Friday in December.

The Nasdaq-100 Index<sup>®</sup> is rebalanced on a quarterly basis in March, June, September and December. The Nasdaq-100 Index<sup>®</sup> rebalance uses the TSO and last sale price of all Nasdaq-100 Index<sup>®</sup> securities as of the prior month-end (February, May, August and November respectively). Index rebalance changes are announced after market close on the second Friday in March, June, September and December and become effective at market open on the first trading day following the third Friday in March, June, September and December.

A special rebalance may be triggered if, based on end-of-day values, any company's weight exceeds 24% or the aggregate weight of the companies whose weight exceeds 4.5% exceeds 48%. Notice of a special rebalance, including the effective date and reference date, will be published in advance.

### **Constituent Selection**

A reconstitution is conducted on an annual basis, at which time all eligible companies are ranked based on market capitalization as of the reconstitution reference date. Once ranked, companies are selected for index inclusion based on the following order of criteria.

1. The top 75 ranked companies are selected for inclusion in the Nasdaq-100 Index<sup>®</sup>.
2. Any other companies that were already members of the Nasdaq-100 Index<sup>®</sup> as of the reconstitution reference date and are ranked within the top 100 are also selected for inclusion in the Nasdaq-100 Index<sup>®</sup>.
3. If fewer than 100 companies are selected based on the first two criteria, the remaining positions will first be filled, in rank order, by companies currently in the Nasdaq-100 Index<sup>®</sup> as of the

reconstitution reference date ranked in positions 101-125, provided that they were ranked in the top 100 at the previous reconstitution, added as a replacement since the previous reconstitution or added as a result of a spinoff event since the previous reconstitution.

4. If fewer than 100 companies are selected based on the first three criteria, the remaining positions will be filled, in rank order, by any companies ranked in the top 100 that were not already members of the Nasdaq-100 Index® as of the reconstitution reference date.

The market capitalization of each company is the combined market capitalization of all eligible share classes. For inclusion purposes, the market capitalization of an ADR will normally be determined based on the depositary shares outstanding, as reported by the depositary banks. This means that a non-U.S. company represented by an ADR may be considered for inclusion in the Nasdaq-100 Index® at less than its full global market capitalization. Notwithstanding the foregoing, an ADR that serves as a company's primary global listing (*i.e.*, the underlying shares are not listed or available for trading elsewhere) will be considered for inclusion based on its full global market capitalization, in the same manner as a direct listing.

### **Constituent Weighting**

The Nasdaq-100 Index® employs a modified market capitalization weighting scheme.

The quarterly weight process uses company-level weights, which are derived using the price and Total Shares Outstanding (“**TSO**”) of each security as of the rebalance reference date. For any company represented by more than one eligible share class, the company weight is the combined weight of the eligible securities representing its share classes. All ADR securities selected for index inclusion will have their weights assigned according to the market capitalization of the depositary shares outstanding, as reported by the depositary banks.

#### ***Quarterly update***

For quarterly rebalances in March, June and September, index shares for each security are adjusted by the percentage change in that company's TSO since the previous TSO update. Following those adjustments, the resulting company weights are evaluated based on two constraints:

- No company's weight may exceed 24%.
- The aggregate weight of the companies whose weights exceed 4.5% may not exceed 48%.

If neither constraint is violated, then no further adjustments are made, and the quarterly constituent weighting process is complete.

In cases where either or both of the constraints above are violated, or when the quarterly rebalance coincides with the annual reconstitution (*i.e.*, December), quarterly weight adjustments are made according to the two-stage adjustment process described below, using the price and TSO of each security as of the rebalance reference date to derive the initial company-level weights.

***Stage 1 adjustment.*** If no company's initial weight exceeds 24% of the Index, initial weights are used as Stage 1 weights without adjustment. Otherwise, initial weights are adjusted such that no company's weight may exceed 20% of the Index.

***Stage 2 adjustment.*** If the aggregate weight of the companies whose Stage 1 weights exceed 4.5% does not exceed 48%, Stage 1 weights are used as the final weights. Otherwise, Stage 1 weights are adjusted such that:

- The aggregate weight of the companies whose Stage 1 weights exceeded 4.5% is set to 40%.
- Companies with Stage 1 weights below 4.5% may also have their weights adjusted to preserve the initial rank order of all companies.

If the two-stage process results in a violation of the weighting constraints described in this “—Quarterly update” section, then the process is repeated until the company weights meet the constraints.

### ***Annual weight adjustment***

The annual reconstitution employs an additional two-stage weight adjustment using security-level constraints. For any company with more than one eligible share class, the securities representing those share classes are considered separately.

Final security weights from the quarterly weight adjustment are used as the initial security weights for the annual weight adjustment process.

*Stage 1 adjustment.* If no security’s initial weight exceeds 15%, initial weights are used as Stage 1 weights. Otherwise, initial weights are adjusted such that no security’s weight may exceed 14% of the Index.

*Stage 2 adjustment.* If the aggregate weight of the securities with the five largest Stage 1 weights does not exceed 40%, Stage 1 weights are used as final weights. Otherwise, Stage 1 weights are adjusted such that:

- The aggregate weight of the securities with the five largest Stage 1 weights is set to 38.5%.
- In order to preserve the initial rank order of the securities, the final index weight of any security outside the five largest will be capped at the lesser of 4.4% or the weight of the fifth largest security.

If the two-stage process results in a violation of the weighting constraints described in this “—Annual weight adjustment” section, then the process is repeated until the security weights meet the constraints.

## **Maintenance of the Nasdaq-100 Index®**

### ***Deletion Policy***

If, at any time, it is determined that an index security is ineligible for continued inclusion, it will be removed as soon as practicable. Advanced notice of an index security deletion, including the effective date, will be announced through the normal channels.

Criteria for security removal include, but are not limited to:

- Delisting or transferring to an ineligible exchange.
- Reorganizing as an ineligible security type (e.g., a Real Estate Investment Trust).
- Reclassification as a financial company, according to the ICB.
- Involvement in a merger, acquisition or other major corporate event that would make continued inclusion impossible, impractical or inappropriate.
- Failure to maintain a weight of at least 0.10% for two consecutive month ends.
- For a security added to the Index as the result of a spin-off event, failure to establish a weight of at least 0.10% at the end of its second day of regular-way trading as an index member.
- Declaring bankruptcy, liquidating or otherwise permanently ceasing operations.

In circumstances where it is not possible to provide sufficient advanced notification of the removal event and/or the identity of a replacement, the security being removed may remain in the Nasdaq-100 Index® at its last sale price, or at an appropriate “deal price”, until the effective date of the replacement

company's entry into the Nasdaq-100 Index®. In such cases, a temporary placeholder security may be utilized, and will be denoted by adding a dollar sign to the beginning and end of the security's ticker symbol.

Securities that are added to the Nasdaq-100 Index® as the result of a spin-off event are normally maintained in the Nasdaq-100 Index®, subject to the removal criteria specified above. Those that are not immediately removed may be removed at a later date to protect the integrity of the Nasdaq-100 Index®, for example, if a spun-off security demonstrates liquidity characteristics that diverge materially from the security eligibility criteria.

### ***Replacement Policy***

Other than at index reconstitution and except for spin-offs, additions to the Nasdaq-100 Index® occur only when there is a deletion that requires replacement. The company with the largest market capitalization that meets all eligibility criteria as of the prior month-end, and which is not already an index member, will replace the deleted company.

For companies represented by more than one share class, the company will only be considered deleted when all its share classes have been removed from the Nasdaq-100 Index®. If a security is removed, but other securities representing the same company remain in the Nasdaq-100 Index®, a replacement event will not be triggered.

A security that was added to the Nasdaq-100 Index® as the result of a spin-off event, and then removed before the next reconstitution, will not be replaced.

For pending deletions set to occur soon after a reconstitution and/or rebalance effective date, the removal may be accelerated to occur in conjunction with the reconstitution and/or rebalance event.

### ***Corporate Actions***

In the periods between scheduled index reconstitution and rebalancing events, individual index securities may be subject to a variety of corporate actions and events that require maintenance and adjustments to the Nasdaq-100 Index®.

At the quarterly rebalancing, no changes are made to the Nasdaq-100 Index® from the previous month end until the quarterly share change effective date, with the exception of corporate actions with an ex-date.

### **Governance of the Nasdaq-100 Index®**

The Nasdaq-100 Index® is managed by a governance committee structure. The Index Oversight Committee is responsible for the oversight of the overall benchmark determination process and the overall governance of the U.S.-based index business, including review and approval of the control framework, certain policies and procedures, certain methodologies and methodology changes and other index management oversight. The Index Management Committee is responsible for the supervision of activities related to the development, issuance and operation of Nasdaq global indexes. The Index Management Committee meets at least quarterly and reviews each index methodology at least annually to ensure that the index achieves stated objectives and that the data and methodology remain effective.

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## THE NASDAQ-100® TECHNOLOGY SECTOR INDEX<sup>SM</sup>

All information contained in this underlying supplement regarding the Nasdaq-100® Technology Sector Index<sup>SM</sup>, including, without limitation, its make-up, method of calculation and changes in its components, has been derived from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by, Nasdaq, Inc. (“**Nasdaq**”). The Nasdaq-100® Technology Sector Index<sup>SM</sup> was developed by and is calculated, maintained and published by Nasdaq. Nasdaq does not have any obligation to continue to publish, and may discontinue publication of, the Nasdaq-100® Technology Sector Index<sup>SM</sup>.

The Nasdaq-100® Technology Sector Index<sup>SM</sup> is an equal-weighted, price-return index designed to measure the performance of the technology companies in the Nasdaq-100 Index®. The Nasdaq-100 Index® is a modified market capitalization-weighted index that is designed to measure the performance of 100 of the largest non-financial companies listed on The Nasdaq Stock Market. For more information about the Nasdaq-100 Index®, please see “Indices—The Nasdaq-100 Index®” in this underlying supplement. The Nasdaq-100® Technology Sector Index<sup>SM</sup> is reported by Bloomberg, L.P. under the ticker symbol “NDXT.”

### Constituent Selection

The Nasdaq-100® Technology Sector Index<sup>SM</sup> contains securities of the Nasdaq-100 Index® that are classified as technology companies (i.e., companies classified under the technology industry) according to the Industry Classification Benchmark (the “**ICB**”).

If a component of the Nasdaq-100® Technology Sector Index<sup>SM</sup> is removed from the Nasdaq-100 Index® for any reason, it is also removed from the Nasdaq-100® Technology Sector Index<sup>SM</sup> at the same time. If a security is added to the Nasdaq-100 Index® for any reason, it may be added to the Nasdaq-100® Technology Sector Index<sup>SM</sup> at the same time.

When a component of the Nasdaq-100® Index that is classified as a technology company according to the ICB is removed from the Nasdaq-100® Index, it is also removed from the Nasdaq-100® Technology Sector Index<sup>SM</sup>. As such, if the replacement company being added to the Nasdaq-100® Index is classified as a technology company according to the ICB, it is added to the Nasdaq-100® Technology Sector Index<sup>SM</sup> and will assume the weight of the removed company on the index effective date.

When a component of the Nasdaq-100® Index that is not classified as technology company according to the ICB is removed and the replacement company being added to the Nasdaq-100® Index is classified as a technology according to the ICB, the replacement company is considered for addition to the Nasdaq-100® Technology Sector Index<sup>SM</sup> at the next quarterly rebalance.

When a component of the Nasdaq-100® Index that is classified as a technology company according to the ICB is removed from the Nasdaq-100® Index and the replacement company being added to the Nasdaq-100® Index is not classified as a technology company according to the ICB, the company is removed from the Nasdaq-100® Technology Sector Index<sup>SM</sup> and the divisor of the Nasdaq-100® Technology Sector Index<sup>SM</sup> is adjusted to ensure index continuity.

### Index Rebalancing

The Nasdaq-100® Technology Sector Index<sup>SM</sup> employs an equal-weighting methodology such that each company’s market value is rebalanced quarterly to an equal-dollar value corresponding to an equal percent weight of the Nasdaq-100® Technology Sector Index<sup>SM</sup>’s aggregate market value. Index shares for each component security are calculated by dividing the equal-dollar market value for that component security by its last sale price at the close of trading on the third Friday in March, June, September and December. In the case of multiple share classes of a company being included in the Nasdaq-100® Technology Sector Index<sup>SM</sup>, the equal-weighted market value will be divided equally among the securities of that company.

## Index Calculation

At any moment in time, the value of the Nasdaq-100<sup>®</sup> Technology Sector Index<sup>SM</sup> equals the aggregate value of the then-current index share weights of each of the Nasdaq-100<sup>®</sup> Technology Sector Index<sup>SM</sup> component securities *multiplied by* each such security's respective last sale price on The Nasdaq Stock Market (which may be the official closing price published by The Nasdaq Stock Market) and *divided by* a scaling factor (the "**Divisor**"), which becomes the basis for the reported Nasdaq-100<sup>®</sup> Technology Sector Index<sup>SM</sup> value. The Divisor serves the purpose of scaling such aggregate value to a lower order of magnitude which is recommended for index reporting purposes.

## Index Maintenance

In the interim periods between scheduled index reconstitution and rebalance events, individual component securities may be the subject to a variety of corporate actions and events that require maintenance and adjustments to the Nasdaq-100<sup>®</sup> Technology Sector Index<sup>SM</sup>. Other than as a direct result of corporate actions, the Nasdaq-100<sup>®</sup> Technology Sector Index<sup>SM</sup> does not normally experience share adjustments between scheduled index rebalance and reconstitution events.

## Governance of the Nasdaq-100<sup>®</sup> Technology Sector Index<sup>SM</sup>

The Nasdaq Index Management Committee approves all new index methodologies. This committee is comprised of full-time professional members of Nasdaq. The committee meets regularly and reviews items including, but not limited to, pending corporate actions that may affect the Nasdaq-100<sup>®</sup> Technology Sector Index<sup>SM</sup> constituents, statistics comparing the composition of the Nasdaq-100<sup>®</sup> Technology Sector Index<sup>SM</sup> to the market, companies that are being considered as candidates for addition to the Nasdaq-100<sup>®</sup> Technology Sector Index<sup>SM</sup> and any significant market events.

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## THE NIKKEI 225 INDEX

All information contained in this underlying supplement regarding the Nikkei 225 Index, including, without limitation, its make-up, method of calculation and changes in its components, has been derived from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by, Nikkei Inc. The Nikkei 225 Index is calculated, maintained and published by Nikkei Inc. Nikkei Inc. has no obligation to continue to publish, and may discontinue the publication of, the Nikkei 225 Index.

The Nikkei 225 Index is reported by Bloomberg L.P. under the ticker symbol “NKY.”

The Nikkei 225 Index is a stock index that measures the composite price performance of selected Japanese stocks. The Nikkei 225 Index is currently based on 225 underlying stocks (the “**Nikkei Underlying Stocks**”) trading on the Tokyo Stock Exchange (“**TSE**”) Prime Market, representing a broad cross-section of Japanese industries. Non-ordinary shares, such as shares of exchange-traded funds, real estate investment trusts, preferred stock or other preferred securities or tracking stocks, are excluded from the Nikkei 225 Index.

All 225 Nikkei Underlying Stocks are stocks listed on the TSE Prime Market. Stocks listed on the TSE Prime Market are among the most actively traded stocks on the TSE. Nikkei Inc. rules require that the 75 most liquid issues (one-third of the component count of the Nikkei 225 Index) be included in the Nikkei 225 Index.

### **Rules of the Periodic Review**

Nikkei Underlying Stocks are reviewed semi-annually (the “**periodic review**”) in accordance with the following rules with base dates at the end of January and July, and results of the review are applied on the first trading day in April and October, respectively. Results of the review become effective on the first trading day of April and October, respectively. The maximum number of Nikkei Underlying Stocks that can be affected is three, excluding any Nikkei Underlying Stock affected by corporate reorganization near the time of periodic review. Stocks selected by the procedures outlined below are presented as candidates to a committee composed of academics and market professionals for comment; based on comments from the committee, Nikkei Inc. determines and announces any changes to the Nikkei Underlying Stocks.

### ***Assessment of Liquidity (High Liquidity Group)***

The top 450 most liquid stocks are chosen from the TSE Prime Market. For purposes of this selection, liquidity is measured by (i) trading value in the preceding 5-year period and (ii) the magnitude of price fluctuation by trading value (defined as (high price/low price)/trading value) in the preceding 5-year period. These 450 stocks constitute the “**High Liquidity Group**” for the review. Those Nikkei Underlying Stocks that are not in the High Liquidity Group are removed. Those stocks that are not currently Nikkei Underlying Stocks but that are in the top 75 of the High Liquidity Group are added.

### ***Sector Balance***

Nikkei Inc. has an industry classification system where there are 36 industries. For index operation purposes, the High Liquidity Group is re-classified from these 36 industries into 6 sectors as follows: Technology, Financials, Consumer Goods, Materials, Capital Goods/Others, and Transportation/Utilities. These six sector categories are further divided into 36 industrial classifications as follows:

- Technology — Pharmaceuticals, Electrical Machinery, Automobiles & Auto Parts, Precision Instruments and Communications;
- Financials — Banks, Other Financial Services, Securities and Insurance;
- Consumer Goods — Fishery, Food, Retail and Services;
- Materials — Mining, Textiles & Apparel, Paper & Pulp, Chemicals, Petroleum, Rubber, Glass &

Ceramics, Steel, Nonferrous Metals and Trading Companies;

- Capital Goods/Others — Construction, Machinery, Shipbuilding, Transportation Equipment, Other Manufacturing and Real Estate; and
- Transportation/Utilities — Railway & Bus, Land Transport, Marine Transport, Air Transport, Warehousing, Electric Power and Gas.

The “**appropriate number**” of constituents for each sector is defined to be half the number of stocks in that sector. After the liquidity-based adjustments, discussed above, a rebalancing is conducted if any of the sectors are over- or under-represented. The degree of representation is evaluated by comparing the actual number of constituents in the sector against the appropriate number for that sector.

For over-represented sectors, current constituents in the sector are deleted in the order of liquidity (lowest liquidity first) to correct the overage. For under-represented sectors, non-constituent stocks are added from the High Liquidity Group in the order of liquidity (highest liquidity first) to correct the shortage.

### **Extraordinary Replacement Rules**

Nikkei Underlying Stocks that meet the following criteria will be deleted from the Nikkei 225 Index: designation as “**securities to be delisted**” or “**securities on alert**,” delisting due to corporate restructuring such as merger, share exchange or share transfer, or transfer to a market other than the TSE Prime Market.

A constituent designated as a “security under supervision” remains a constituent at the time of designation. However, Nikkei Inc. may replace such constituent with a pre-announcement when it is highly inappropriate to keep the stock as a constituent (e.g. the probability of delisting is extremely high).

When a Nikkei Underlying Stock is deleted from the Nikkei 225 Index as outlined in the preceding paragraph, a new Nikkei Underlying Stock will be selected and added, in principle, from the same sector of the High Liquidity Group in order of liquidity. Notwithstanding the foregoing, the following rules may apply depending on the timing and circumstances of the deletion: (i) when such deletion is scheduled close to the time of the periodic review, additional stocks may be selected as part of the periodic review process and (ii) when multiple deletions are scheduled in a season other than the periodic review, additions may be selected using the liquidity and sector balancing rules outlined above.

### **Procedures to Implement Constituent Changes**

As a general rule, for both the periodic review and the extraordinary replacement rules, additions and deletions are made effective on the same day in order to keep the number of Nikkei Underlying Stocks 225. However, under the circumstances outlined below, when an addition cannot be made on the same day as a deletion, the Nikkei 225 Index may be calculated with fewer than 225 Nikkei Underlying Stocks. In this case, the divisor is adjusted to ensure continuity.

A Nikkei Underlying Stock may be delisted when it establishes a parent company through a share transfer or becomes a subsidiary of an unlisted company through a share exchange. If a new parent company is deemed to be succeeding the business of the delisted company, that new parent company may become a Nikkei Underlying Stock if it becomes listed. In that case, during the period between the delisting of the original company and the listing of the new succeeding company, the Nikkei 225 Index may be calculated with fewer than 225 Nikkei Underlying Stocks.

### **Calculation of the Nikkei 225 Index**

The Nikkei 225 Index is a modified, price-weighted index (*i.e.*, a Nikkei Underlying Stock’s weight in the index is based on its price per share rather than the total market capitalization of the issuer) that is calculated by (i) multiplying the per share price of each Nikkei Underlying Stock by the corresponding price adjustment factor for such Nikkei Underlying Stock (a “**PAF**”) (or the capped price adjustment factor in the case of a Nikkei Underlying Stock to which a capping ratio is applied as described below), (ii) calculating the sum of all these products and (iii) dividing such sum by a divisor. The divisor is subject to

periodic adjustments as set forth below. The stock prices used in the calculation of the Nikkei 225 Index are those reported by a primary market for the Nikkei Underlying Stocks (currently the TSE). The level of the Nikkei 225 Index is calculated every five seconds.

The PAF of a Nikkei Underlying Stock will equal 1 if the per share price of such Nikkei Underlying Stock does not exceed 1% of the sum of the adjusted per share prices for all Nikkei Underlying Stocks. If the per share price of a Nikkei Underlying Stock exceeds 1% of the sum of the adjusted per share prices for all Nikkei Underlying Stocks, the PAF for such Nikkei Underlying Stock will be calculated in intervals of 0.1 (rounded down) and will equal the highest possible value that, when multiplied by the per share price of such Nikkei Underlying Stock, does not exceed 1% of the sum of the adjusted per share prices for all Nikkei Underlying Stocks. PAFs are evaluated semi-annually on the base dates at the end of January and July. If the average daily trading value of a stock to be added is relatively low compared with its expected weight, the stock may be added with a PAF which is one-half (rounded up to the nearest 0.1) of the value set by the method described above. In this case, the PAF of that stock will in principle be raised to the planned value at the next periodic review.

Effective October 2022, if the weight of any Nikkei Underlying Stock exceeds a certain threshold (the “**weight cap threshold**”) on the base date of a periodic review, a capping ratio will be applied to decrease the weight of such constituent. The weight cap threshold for any Nikkei Underlying Stock is (i) 12% as of the October 2022 periodic review, (ii) 11% as of the October 2023 periodic review and (iii) 10% as of the October 2024 periodic review. For any Nikkei Underlying Stock to which a capping ratio is applied, the price of such constituent is adjusted by a capped price adjustment factor (“**CPAF**”), which is equal to (i) the capping ratio *multiplied by* (ii) the PAF.

If, on the base date of a periodic review, the weight of any Nikkei Underlying Stock exceeds the weight cap threshold and a capping ratio does not already apply to that Nikkei Underlying Stock, a capping ratio of 0.9 is applied on the effective date of the periodic review. If a capping ratio already applies to any Nikkei Underlying Stock, the capping ratio will be decreased in increments of 0.1 on the effective date of the periodic review until there is a change in the CPAF. If, on the base date of a periodic change, the weight of a Nikkei Underlying Stock to which a capping ratio is applied is below 5%, the capping ratio will be increased in increments of 0.1 on the effective date of the periodic review until there is a change in the CPAF; however, the capping ratio will be canceled if it increases to 1.0. When a Nikkei Underlying Stock to which a capping ratio is applied effects a large-scale stock split or reverse split and the PAF is adjusted by the ratio of the split or reverse split, the capping ratio may be revised as necessary to ensure that the new CPAF does not change the weight of that Nikkei Underlying Stock.

In order to maintain continuity of the Nikkei 225 Index in the event of certain changes due to non-market factors affecting the Nikkei Underlying Stocks, such as the addition or deletion of stocks, substitution of stocks, stock splits or distributions of assets to stockholders, the divisor used in calculating the Nikkei 225 Index is adjusted in a manner designed to prevent any instantaneous change or discontinuity in the level of the Nikkei 225 Index. Thereafter, the divisor remains at the new value until a further adjustment is necessary as the result of another change. As a result of such change affecting any Nikkei Underlying Stock, the divisor is adjusted in such a way that the sum of all share prices immediately after such change multiplied by the applicable PAF and divided by the new divisor (*i.e.*, the level of the Nikkei 225 Index immediately after such change) will equal the level of the Nikkei 225 Index immediately prior to the change.

In the event of a spin-off from a Nikkei Underlying Stock, when shares of the spun-off company are distributed to shareholders of that Nikkei Underlying Stock and the spun-off company will be listed, the spun-off company is temporarily incorporated into the calculation of the level of the Nikkei 225 Index between the spin-off ex-date and the listing date based upon the offering or reference price submitted by the listing sponsor. On the business day after the listing date, the spun-off company is excluded from the calculation of the level of the Nikkei 225 Index and the divisor is adjusted to maintain index continuity.

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In addition, the Nikkei 225 Index Sponsor gives no assurance regarding any modification or change in any methodology used in calculating the Nikkei 225 Index and is under no obligation to continue the calculation, publication and dissemination of the Nikkei 225 Index.

## THE RUSSELL INDICES

All information contained in this underlying supplement regarding the Russell 1000<sup>®</sup> Index, the Russell 2000<sup>®</sup> Index and the Russell 3000<sup>®</sup> Index (each, a “**Russell Index**” and collectively, the “**Russell Indices**”), including, without limitation, their make-up, method of calculation and changes in their components, has been derived from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by, FTSE Russell, which is wholly owned by the London Stock Exchange Group plc. The Russell Indices are calculated, maintained and published by FTSE Russell. FTSE Russell has no obligation to continue to publish, and may discontinue the publication of, any of the Russell Indices.

### **The Russell 1000<sup>®</sup> Index**

The Russell 1000<sup>®</sup> Index measures the capitalization-weighted price performance of 1,000 U.S. large-capitalization stocks listed on eligible U.S. exchanges and is designed to track the performance of the large-capitalization segment of the U.S. equity market. The companies included in the Russell 1000<sup>®</sup> Index are the 1,000 largest companies that form the Russell 3000E<sup>™</sup> Index, which is composed of the 4,000 largest U.S. companies as determined by total market capitalization and represents approximately 99% of the U.S. equity market. The Russell 1000<sup>®</sup> Index is reported by Bloomberg L.P. under the ticker symbol “RIY.”

### **The Russell 2000<sup>®</sup> Index**

The Russell 2000<sup>®</sup> Index measures the capitalization-weighted price performance of 2,000 U.S. small-capitalization stocks listed on eligible U.S. exchanges and is designed to track the performance of the small-capitalization segment of the U.S. equity market. The companies included in the Russell 2000<sup>®</sup> Index are the middle 2,000 of the companies that form the Russell 3000E<sup>™</sup> Index, which is composed of the 4,000 largest U.S. companies as determined by total market capitalization and represents approximately 99% of the U.S. equity market. The Russell 2000<sup>®</sup> Index is reported by Bloomberg L.P. under the ticker symbol “RTY.”

### **The Russell 3000<sup>®</sup> Index**

The Russell 3000<sup>®</sup> Index measures the capitalization-weighted price performance of 3,000 U.S. large-capitalization, mid-capitalization and small-capitalization stocks listed on eligible U.S. exchanges and is designed to represent the broad U.S. equity market. The companies included in the Russell 3000<sup>®</sup> Index are the 3,000 largest companies that form the Russell 3000E<sup>™</sup> Index, which is composed of the 4,000 largest U.S. companies as determined by total market capitalization and represents approximately 99% of the U.S. equity market. The Russell 3000<sup>®</sup> Index consists of the 3,000 companies included in the Russell 1000<sup>®</sup> Index and the Russell 2000<sup>®</sup> Index, which are subsets of the Russell 3000E<sup>™</sup> Index, and represents approximately 98% of the U.S. equity market. The Russell 3000<sup>®</sup> Index is reported by Bloomberg L.P. under the ticker symbol “RAY.”

## **Selection of Stocks Underlying the Russell Indices**

### *Defining Eligible Securities*

The Russell Indices are sub-indices of the Russell 3000E<sup>™</sup> Index. To be eligible for inclusion in the Russell 3000E<sup>™</sup> Index and, consequently, a Russell Index, a company must meet the following criteria as of the rank day which occurs on the last business day of April (except that initial public offerings (“**IPOs**”) are generally considered for inclusion on a quarterly basis):

- *U.S. Equity Market.* The company must be determined to be part of the U.S. equity market, meaning that its home country is the United States. If a company incorporates in, has a stated headquarters location in and also trades on a standard exchange in the same country (ADRs and ADSs are not eligible), the company is assigned to its country of incorporation.

If any of the three criteria do not match, FTSE Russell then defines three Home Country Indicators (“**HCIs**”): country of incorporation, country of headquarters and country of the

most liquid exchange as defined by two-year average daily dollar trading volume from all exchanges within a country. After the HCIs are defined, the next step in the country assignment involves an analysis of assets by location. FTSE Russell cross-compares the primary location of the company's assets with the three HCIs. If the primary location of assets matches any of the HCIs, then the company is assigned to its primary asset location.

If there is not enough information to determine a company's primary location of assets, FTSE Russell uses the primary location of the company's revenue for the same cross-comparison and assigns the company to the appropriate country in a similar fashion. FTSE Russell uses an average of two years of assets or revenue data for analysis to reduce potential turnover.

If conclusive country details cannot be derived from assets or revenue, FTSE Russell assigns the company to the country in which its headquarters are located unless the country is a Benefit Driven Incorporation ("**BDI**") country. If the country in which its headquarters are located is a BDI country, the company is assigned to the country of its most liquid stock exchange. The BDI countries are Anguilla, Antigua and Barbuda, Aruba, Bahamas, Barbados, Belize, Bermuda, Bonaire, British Virgin Islands, Cayman Islands, Channel Islands, Cook Islands, Curacao, Faroe Islands, Gibraltar, Guernsey, Isle of Man, Jersey, Liberia, Marshall Islands, Panama, Saba, Sint Eustatius, Sint Maarten and Turks and Caicos Islands.

If a company is designated as a Chinese "N Share," it will not be considered for inclusion within the Russell Indices. An N Share is a company incorporated outside of mainland China that trades on the New York Stock Exchange, The Nasdaq Stock Market or NYSE American. An N Share will have a headquarters or principal executive office or its establishment in mainland China, with the majority of its revenue or assets derived from mainland China.

- *Eligible U.S. Exchange.* The following exchanges and markets are deemed to be eligible U.S. exchanges: the Chicago Board Options Exchange, the New York Stock Exchange, NYSE American, The Nasdaq Stock Market and NYSE Arca. Stocks that are not traded on an eligible U.S. exchange (Bulletin Board, Pink Sheet and over-the-counter traded securities, including securities for which prices are displayed on the FINRA Alternative Display Facility) are not eligible for inclusion.
- *Minimum Closing Price.* A stock must have a close price at or above \$1.00 (on its primary exchange), subject to exceptions to reduce unnecessary turnover.
- *Minimum Total Market Capitalization.* Companies with a total market capitalization less than \$30 million are not eligible for inclusion.
- *Minimum Free Float.* Companies with less than an absolute 5% of their shares available in the free float as defined by FTSE Russell are not eligible for inclusion.
- *Company Structure.* Companies structured in the following ways are not eligible for inclusion: royalty trusts, U.S. limited liability companies, closed-end investment companies, business development companies (and other companies that are required to report Acquired Fund Fees and Expenses, as defined by the SEC), blank-check companies, special-purpose acquisition companies, limited partnerships, exchange-traded funds and mutual funds.
- *UBTI.* Real estate investment trusts and publicly traded partnerships that generate or have historically generated unrelated business taxable income ("**UBTI**") and have not taken steps to block UBTI to equity holders are not eligible for inclusion. Information used to confirm UBTI impact includes the following publicly available sources: 10-K, SEC Form S-3, K-1, company annual report, dividend notices or company website.

- *Security Types.* The following types of securities are not eligible for inclusion: preferred and convertible preferred stock, redeemable shares, participating preferred stock, warrants, rights, depositary receipts, installment receipts and trust receipts. Stapled units and other paired share structures are considered eligible for inclusion, unless an underlying component of the stock is an ineligible security type.
- *Minimum Voting Rights.* Companies assigned a developed market nationality are required to have 5% or greater of the company's voting rights (aggregated across all of its equity securities, including, where identifiable, those that are not listed or trading) in the hands of unrestricted shareholders in order to be eligible for index inclusion. Shares referenced as "non-voting" or providing legally minimum rights only will be viewed as having no voting power as it relates to the minimum voting rights review. Emerging market securities are not subject to this requirement.
- *CHES Depositary Interests.* Securities with exposure to CDIs will be assessed as of cut-off date for the index reviews. If a new addition has 40% or greater free float shares in the form of CDIs, the CDIs will be treated as restricted and CDI shares will be removed from free float in line with the review implementation. Once CDI shares have been restricted for a name, the CDI restriction will be carried forward throughout its inclusion. For existing members, any security with unrestricted CDI exposure of 50% or greater of its free float shares in the form of CDIs will have its shares adjusted to restrict the portion of shares represented in the form of CDIs at the subsequent review. For the avoidance of doubt, US common shares will remain eligible in this case subject to them meeting all other index eligibility requirements.
- *Multiple Share Classes.* If an eligible company trades under multiple share classes, each share class is reviewed independently for eligibility for inclusion. Share classes in addition to the primary share class that meet the following minimum size, liquidity and float requirements will also be eligible: (i) total market cap must be larger than \$30 million; (ii) average daily dollar trading value must exceed that of the global median, which is determined each reconstitution rank day by ranking all securities in investable countries by average daily dollar trading value; and (iii) 5% or greater of shares must be available in the free float as defined by FTSE Russell.

#### *Determining Market Capitalization of Eligible Securities*

Securities of eligible companies are included in Russell Indices based on total market capitalization. Total market capitalization is determined by multiplying total outstanding shares by the market price (generally, the last price traded on the primary exchange of the primary share class, i.e., the share class with the highest two-year trading volume, subject to exceptions) as of the rank day in April (except that IPOs are generally considered for inclusion on a quarterly basis).

Common stock, non-restricted exchangeable shares (i.e., shares that may be exchanged at any time, at the holder's option, on a one-for-one basis for common stock) and partnership units/membership interests (i.e., an economic interest in a limited liability company or limited partnership) are used to calculate a company's total market capitalization. FTSE Russell includes partnership units/membership interests as part of total market capitalization when the company in question is merely a holding company of an underlying entity that issues membership or partnership units/interests and when these membership units are the company's sole asset. This is not to be confused with operating partnership units that are issued in conjunction with umbrella partnership real estate investment trusts. In these cases, total market capitalization will be calculated based on 100% of the value of all membership interests.

Any other form of shares are excluded from the calculation. If multiple share classes of common stock exist, they are combined to determine total shares outstanding; however, in cases where the common stock share classes act independently of each other (e.g., tracking stocks), each class is considered for inclusion separately.

For merger and spin-off transactions that are effective between rank day in April and the business day immediately before the index lock-down takes effect ahead of the annual reconstitution in June, the market capitalizations of the impacted securities are recalculated and membership is re-evaluated as of the effective date of the corporate action. For corporate events that occur during the reconstitution lock-

down period (which takes effect from the open on the first day of the lock-down period onwards), market capitalizations and memberships will not be re-evaluated. Non-index members that have been considered ineligible as of rank day will not be reevaluated in the event of a subsequent corporate action that occurs between rank day and the reconstitution effective date.

### *Determining Index Membership*

The 4,000 securities with the largest total market capitalization become members of the Russell 3000E™ Index. If eligible securities total less than 4,000, the Russell 3000E™ Index will include all eligible securities. All remaining Russell Indices are a subset of the Russell 3000E™ Index. Market capitalization breakpoints for the Russell Indices are determined by the breaks between the rankings of companies (based on descending total market capitalization). Market capitalization breakpoints for the Russell 3000® Index are determined by the break between the companies ranked #1 through #3,000. Market capitalization breakpoints for the Russell 1000® Index are determined by the break between the companies ranked #1 through #1,000. Market capitalization breakpoints for the Russell 2000® Index are determined by the break between the companies ranked #1,001 through #3,000. After the initial market capitalization breakpoints are determined by the ranges listed above, new members are assigned on the basis of the breakpoints, and existing members are reviewed to determine if they fall within a cumulative 5% market capitalization range around these new market capitalization breakpoints. If an existing member's market cap falls within this cumulative 5% of the market capitalization breakpoint, it will remain in its current Russell Index rather than be moved to a different Russell Index.

After membership is determined, a security's shares are adjusted to include only those shares available to the public ("**free float**"). The purpose of this adjustment is to exclude from market calculations the capitalization that is not available for purchase and is not part of the investable opportunity set. Stocks in the Russell Indices are weighted by their available (also called float-adjusted) market capitalization.

Reconstitution occurs on the fourth Friday in June. A full calendar for reconstitution is published each spring, with such reconstitution schedule governed by FTSE Russell guidelines.

Notwithstanding anything to the contrary above, following market consultation, FTSE Russell has announced that reconstitution of the Russell Indices will change from an annual to a semi-annual schedule starting in December 2026. The first semi-annual reconstitution of each year will continue taking place on the fourth Friday in June. The second semi-annual reconstitution of each year will take place on the second Friday in December (rank day on the last business day in October). The quarterly December IPO inclusion and float/share changes will be incorporated into the December semi-annual reconstitution.

### **Corporate Actions and Events Affecting the Russell Indices**

FTSE Russell applies corporate actions to the Russell Indices on a daily basis. FTSE Russell applies the following methodology guidelines, among others, when adjusting the applicable Russell Index in response to corporate actions:

- *"No Replacement" Rule.* Securities that leave the relevant Russell Index for any reason (e.g., mergers, acquisitions or other similar corporate activity) are not replaced. Thus, the number of securities in the relevant Russell Index over a year will fluctuate according to corporate activity.
- *Statement of Principles for Specific Corporate Events.* FTSE Russell has stated as general principles that the treatment of corporate events (a) should reflect how such events are likely to be dealt with in investment portfolios to maintain the portfolio structure in line with the target set out in the index objective and index methodology and (b) should normally be designed to minimize the trading activity required by investors to match the index performance. No assurance can be provided that corporate actions and events will be treated by FTSE Russell in a manner consistent with its statement of general principles.

In addition, FTSE Russell has established guidance for the treatment of corporate actions and events, including, but not limited to, dividends, capital repayments, companies converting to a REIT structure, share buybacks, rights issues, mergers, acquisitions, tender offers, split-offs, spin-offs, bankruptcies, insolvencies, liquidations and trading suspensions. However, because of the complexities involved in some cases, those guidelines are not definitive rules that will determine FTSE Russell's actions in all circumstances. FTSE Russell reserves the right to determine the most appropriate method of implementation for any corporate event which is not covered by those guidelines or which is of a complex nature.

- *Changes to Shares Outstanding and Free Float.* Each Russell Index will be reviewed quarterly for updates to shares outstanding and to free floats used within the calculation of each Russell Index. The changes will be implemented quarterly, on the third Friday of the month (after the close) in March, September and December and on the last Friday of June (unless the last Friday occurs on the 29<sup>th</sup> or 30<sup>th</sup>, when reconstitution will occur on the Friday prior). In March, September and December, shares outstanding and free float will be updated to reflect cumulative shares in issue changes greater than 1%, cumulative free float changes greater than 1% for constituents with a free float greater than 5% but less than or equal to 15% and cumulative free float changes greater than 3% for constituents with a free float greater than 15%. In June, the shares and free float updates will be implemented regardless of size. Outside of the quarterly update cycle, shares and free float updates can be triggered in some cases by certain events, such as some primary or secondary offerings.

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## THE RUSSELL STYLE INDICES

All information contained in this underlying supplement regarding the Russell 1000<sup>®</sup> Growth Index, the Russell 2000<sup>®</sup> Growth Index and the Russell 3000<sup>®</sup> Growth Index (each, a “**Russell Growth Index**” and collectively, the “**Russell Growth Indices**”) and the Russell 1000<sup>®</sup> Value Index, the Russell 2000<sup>®</sup> Value Index and the Russell 3000<sup>®</sup> Value Index (each, a “**Russell Value Index**” and collectively, the “**Russell Value Indices**”), including, without limitation, their make-up, method of calculation and changes in their components, has been derived from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by, FTSE Russell, which is wholly owned by the London Stock Exchange Group plc. The Russell Growth Indices and the Russell Value Indices (each, a “**Russell Style Index**” and collectively, the “**Russell Style Indices**”) are calculated, maintained and published by FTSE Russell. FTSE Russell has no obligation to continue to publish, and may discontinue the publication of, any of the Russell Style Indices.

The constituents included in each Russell Style Index are members of the Russell 1000<sup>®</sup> Index, the Russell 2000<sup>®</sup> Index or the Russell 3000<sup>®</sup> Index (each, a “**Russell Index**” and collectively, the “**Russell Indices**”), as applicable. For additional information about the Russell Indices, please see “Equity Index Descriptions — The Russell Indices” in this underlying supplement.

### The Russell 1000<sup>®</sup> Growth Index

The Russell 1000<sup>®</sup> Growth Index measures the capitalization-weighted price performance of the stocks included in the Russell 1000<sup>®</sup> Index that are determined by FTSE Russell to be growth oriented, with higher price-to-book ratios, higher I/B/E/S forecast medium-term growth (2-year) and higher sales per share historical growth (5-year). The Russell 1000<sup>®</sup> Index measures the capitalization-weighted price performance of 1,000 U.S. large-capitalization stocks listed on eligible U.S. exchanges (with respect to the Russell 1000<sup>®</sup> Index, the “**Component Stocks**”) and is designed to track the performance of the large-capitalization segment of the U.S. equity market. The Russell 1000<sup>®</sup> Growth Index is reported by Bloomberg L.P. under the ticker symbol “RLG.”

### The Russell 1000<sup>®</sup> Value Index

The Russell 1000<sup>®</sup> Value Index measures the capitalization-weighted price performance of the stocks included in the Russell 1000<sup>®</sup> Index that are determined by FTSE Russell to be value oriented, with lower price-to-book ratios, lower I/B/E/S forecast medium-term growth (2-year) and lower sales per share historical growth (5-year). The Russell 1000<sup>®</sup> Index measures the capitalization-weighted price performance of 1,000 U.S. large-capitalization stocks listed on eligible U.S. exchanges (with respect to the Russell 1000<sup>®</sup> Index, the “**Component Stocks**”) and is designed to track the performance of the large-capitalization segment of the U.S. equity market. The Russell 1000<sup>®</sup> Value Index is reported by Bloomberg L.P. under the ticker symbol “RLV.”

### The Russell 2000<sup>®</sup> Growth Index

The Russell 2000<sup>®</sup> Growth Index measures the capitalization-weighted price performance of the stocks included in the Russell 2000<sup>®</sup> Index that are determined by FTSE Russell to be growth oriented, with higher price-to-book ratios, higher I/B/E/S forecast medium-term growth (2-year) and higher sales per share historical growth (5-year). The Russell 2000<sup>®</sup> Index measures the capitalization-weighted price performance of 2,000 U.S. small-capitalization stocks listed on eligible U.S. exchanges (with respect to the Russell 2000<sup>®</sup> Index, the “**Component Stocks**”) and is designed to track the performance of the small-capitalization segment of the U.S. equity market. The Russell 2000<sup>®</sup> Growth Index is reported by Bloomberg L.P. under the ticker symbol “RUO.”

### The Russell 2000<sup>®</sup> Value Index

The Russell 2000<sup>®</sup> Value Index measures the capitalization-weighted price performance of the stocks included in the Russell 2000<sup>®</sup> Index that are determined by FTSE Russell to be value oriented, with lower price-to-book ratios, lower I/B/E/S forecast medium-term growth (2-year) and lower sales per share historical growth (5-year). The Russell 2000<sup>®</sup> Index measures the capitalization-weighted price performance of 2,000 U.S. small-capitalization stocks listed on eligible U.S. exchanges (with respect to

the Russell 2000® Index, the “**Component Stocks**”) and is designed to track the performance of the small-capitalization segment of the U.S. equity market. The Russell 2000® Value Index is reported by Bloomberg L.P. under the ticker symbol “RUJ.”

### **The Russell 3000® Growth Index**

The Russell 3000® Growth Index measures the capitalization-weighted price performance of the stocks included in the Russell 3000® Index that are determined by FTSE Russell to be growth oriented, with higher price-to-book ratios, higher I/B/E/S forecast medium-term growth (2-year) and higher sales per share historical growth (5-year). The Russell 3000® Index measures the capitalization-weighted price performance of 3,000 U.S. large-capitalization stocks listed on eligible U.S. exchanges (with respect to the Russell 3000® Index, the “**Component Stocks**”) and is designed to represent the broad U.S. equity market. The Russell 3000® Growth Index is reported by Bloomberg L.P. under the ticker symbol “RAG.”

### **The Russell 3000® Value Index**

The Russell 3000® Value Index measures the capitalization-weighted price performance of the stocks included in the Russell 3000® Index that are determined by FTSE Russell to be value oriented, with lower price-to-book ratios, lower I/B/E/S forecast medium-term growth (2-year) and lower sales per share historical growth (5-year). The Russell 3000® Index measures the capitalization-weighted price performance of 3,000 U.S. large-capitalization stocks listed on eligible U.S. exchanges (with respect to the Russell 3000® Index, the “**Component Stocks**”) and is designed to represent the broad U.S. equity market. The Russell 3000® Value Index is reported by Bloomberg L.P. under the ticker symbol “RAV.”

### **Determining Style**

FTSE Russell uses a “**non-linear probability**” method to assign stocks to a Russell Value Index, an index that measures the capitalization-weighted price performance of the relevant Component Stocks determined by FTSE Russell to be value oriented, with lower price-to-book ratios and lower forecasted and historical growth, and a Russell Growth Index, an index that measures the capitalization-weighted price performance of the relevant Component Stocks determined by FTSE Russell to be growth oriented, with higher price-to-book ratios and higher forecasted and historical growth.

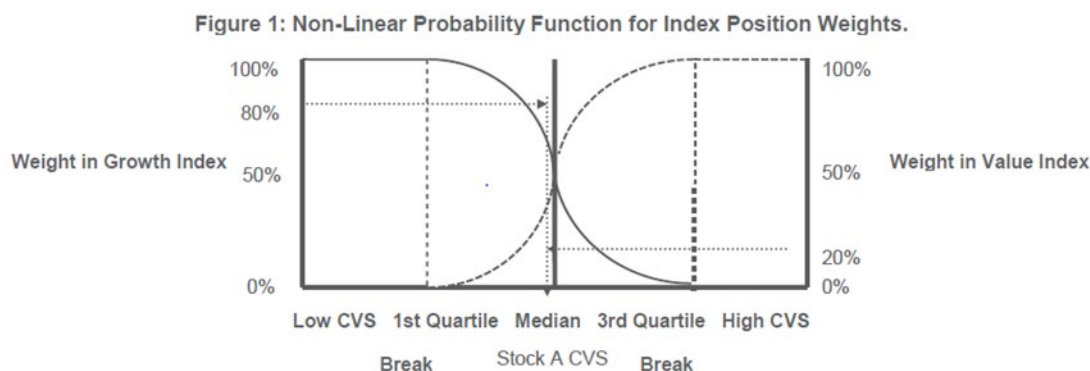
FTSE Russell uses three variables in the determination of value and growth. For value, book-to-price (B/P) ratio is used, while for growth, two variables — I/B/E/S forecast medium-term growth (2-year) and sales per share historical growth (5-year) — are used. The term “**probability**” is used to indicate the degree of certainty that a stock is value or growth based on its relative book-to-price (B/P) ratio, I/B/E/S forecast medium-term growth (2 year) and sales per share historical growth (5 year).

First, the relevant Component Stocks are ranked by their book-to-price ratio (B/P), their I/B/E/S forecast medium-term growth (2 year) and sales per share historical growth (5 year). These rankings are then converted to standardized units, where the value variable represents 50% of the score and the two growth variables represent the remaining 50%. Next, these units are combined to produce a composite value score (“**CVS**”).

The relevant Component Stocks are then ranked by their CVS, and a probability algorithm is applied to the CVS distribution to assign growth and value weights to each stock. In general, a stock with a lower CVS is considered growth, a stock with a higher CVS is considered value and a stock with a CVS in the middle range is considered to have both growth and value characteristics and is weighted proportionately in the relevant Russell Growth Index and the corresponding Russell Value Index. Stocks are always fully represented by the combination of their growth and value weights (e.g., a stock that is given a 20% weight in a Russell Value Index will have an 80% weight in the corresponding Russell Growth Index, prior to the application of any index weight capping). Style index assignment for non-pricing vehicle share classes will be based on that of the pricing vehicle and assigned consistently across all additional share classes.

## Description of Non-Linear Probability Algorithm

Stock A, in the figure below, is a security with 20% of its available shares assigned to a Russell Value Index and the remaining 80% assigned to the corresponding Russell Growth Index. The growth and value probabilities will always sum to 100%, prior to the application of any index weight capping. Hence, the sum of a stock's market capitalization in a Russell Growth Index and the corresponding Russell Value Index will always equal its market capitalization in the relevant Russell Index.



In the figure above, the quartile breaks are calculated such that approximately 25% of the available market capitalization lies in each quartile. Stocks at the median are divided 50% in each of the relevant Russell Growth Index and the corresponding Russell Value Index. Stocks below the first quartile are 100% in the relevant Russell Growth Index. Stocks above the third quartile are 100% in the relevant Russell Value Index. Stocks falling between the first and third quartile breaks are included in both the relevant Russell Growth Index and the corresponding Russell Value Index to varying degrees, depending on how far they are above or below the median and how close they are to the first or third quartile breaks.

### 5% Rule

Roughly 70% of the available market capitalization is classified as all growth or all value. The remaining 30% of stocks have some portion of their market value in either the relevant Russell Value Index or the corresponding Russell Growth Index, depending on their relative distance from the median value score. Note that there is a small position cutoff rule. If a stock's weight is more than 95% in one Russell Style Index, its weight is increased to 100% in that Russell Style Index.

### Banding Rule

In an effort to mitigate unnecessary turnover, FTSE Russell implements a banding methodology at the CVS level of the growth and value style algorithm. If a company's CVS change from the previous year is less than or equal to  $\pm 0.10$  and if the company remains in the same relevant Russell Index, then the CVS remains unchanged during the next reconstitution process. Keeping the CVS static for these companies does not mean the probability (growth/value) will remain unchanged in all cases due to the relation of a CVS score to the overall index. However, this banding methodology is intended to reduce turnover caused by smaller, less meaningful movements while continuing to allow the larger, more meaningful changes to occur, signalling a true change in a company's relation to the market.

### Missing Values, Negative Values or Low Coverage

In calculating growth and value weights, stocks with missing or negative values for B/P, or missing values for I/B/E/S growth (negative I/B/E/S medium-term growth is valid), or missing sales per share historical growth (5-year) (6 years of quarterly numbers are required), are allocated by using the mean value score of the Industry Classification Benchmark subsector, sector, supersector or industry group of the relevant Russell Index into which the company falls. Each missing (or negative B/P) variable is substituted with the subsector, sector, supersector or industry group independently. An industry must have five members, or the substitution reverts to the subsector, and so forth to the sector. In addition, a weighted value score is calculated for securities with low analyst coverage for I/B/E/S medium-term

growth. For securities with coverage by a single analyst, 2/3 of the subsector, sector, supersector or industry group value score is weighted with 1/3 the security's independent value score. For those securities with coverage by two analysts, 2/3 of the independent security's value score is used and only 1/3 of the subsector, sector, supersector or industry group is weighted. For those securities with at least three analysts contributing to the I/B/E/S medium-term growth, 100% of the independent security's value score is used.

## **Constituent Weighting**

Prior to March 24, 2025, each Russell Style Index was market capitalization-weighted at each rebalancing. Effective at the open of trading on March 24, 2025, FTSE Russell began applying a multi-step iterative capping methodology to the Russell Style Indices such that (1) all Component Stocks with a weight greater than 4.5% will not represent more than 45% of any Russell Style Index in the aggregate and (2) no individual Component Stock will have a weight greater than 22.5% of any Russell Style Index. For capping purposes, the Russell Style Indices are initially rebalanced quarterly after the close of business on the third Friday of March, September and December and the fourth Friday of June, using prices at the close of business on the Wednesday before the second Friday in March, September and December and the close of business on the Wednesday before the third Friday in June and shares in issue and free float adjusted for corporate actions, as at the open of business on the Monday after the third Friday of March, June, September and December.

In addition, each Russell Style Index is subject to a capping review at the end of each calendar quarter using closing prices on the third trading day prior to the last business day of the quarter (the "price date"), adjusted for any corporate actions effective on or before the price date and incorporating forward-looking constituents, shares in issue and investability weights (after capping) as designated to take effect on the last business day of the quarter, to determine if the following thresholds are breached: (1) all Component Stocks with a weight greater than 4.8% represent no more than 48% of the applicable Russell Style Index in the aggregate and (2) no individual Component Stock has a weight greater than 24% of the applicable Russell Style Index. If the review identifies a threshold breach, the applicable Russell Style Index is recapped using the capping methodology described in the prior paragraph, using closing prices from the price date, adjusted for corporate actions and incorporating forward-looking uncapped constituents, shares in issue and investability weights as designated to take effect on the last business day of the quarter.

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## THE S&P/ASX 200 INDEX

All information contained in this underlying supplement regarding the S&P/ASX 200 Index, including, without limitation, its make-up, method of calculation and changes in its components, has been derived from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by, S&P Dow Jones Indices LLC (“**S&P Dow Jones**”). The S&P/ASX 200 Index is calculated, maintained and published by S&P Dow Jones. S&P Dow Jones has no obligation to continue to publish, and may discontinue the publication of, the S&P/ASX 200 Index. The S&P/ASX 200 Index is reported by Bloomberg L.P. under the ticker symbol “AS51.”

### Composition of the S&P/ASX 200 Index

The S&P/ASX 200 Index is designed to be the primary gauge for the Australian equity market, and it is recognized as an investable benchmark in Australia. The S&P/ASX 200 Index measures the performance of the 200 largest and most liquid index-eligible stocks listed on the Australian Securities Exchange (the “**ASX**”) by float-adjusted market capitalization.

The S&P/ASX 200 Index weights companies according to the Global Industry Classification Standard (“**GICS**®”), which creates uniform ground rules for replicable, custom-tailored, industry-focused portfolios. It also enables meaningful comparisons of sectors and industries across regions.

### Eligibility Criteria

The index companies are drawn from the universe of ordinary and preferred equity stocks listed on ASX. The criteria for index additions include, but are not limited to:

- *Listing.* Only securities listed on the ASX are considered for inclusion in the S&P/ASX 200 Index;
- *Domicile.* The S&P/ASX 200 Index draws from the entire universe of ASX-listed stocks, which includes both primary and secondary listings on the ASX. A secondary listing occurs when the ASX is not the primary exchange and the stock is listed in multiple markets. This includes foreign-domiciled entities that are not incorporated or registered in Australia and have their primary listing on an exchange other than the ASX.

Both domestic and foreign-domiciled entities are eligible for inclusion in the S&P®/ASX 200 Index. Foreign-domiciled securities may be subject to specialized treatment due to the data reporting conventions of certain foreign securities listed on the ASX. Such action is necessary in order to ensure the S&P/ASX 200 Index remains representative of the Australian market while limiting constituent turnover and reducing index volatility.

Securities classified as “foreign-domiciled” are eligible for inclusion in the S&P/ASX 200 Index. Foreign-domiciled securities may be subject to specialized treatment due to the data reporting conventions of certain foreign securities listed on the ASX. Generally, a foreign-domicile company is a company that is (i) incorporated overseas; and/or (ii) listed on one or more overseas markets; and (iii) has the majority of its trading activity occurring on an overseas exchange.

Securities classified as “domestic” are eligible for inclusion in the S&P/ASX 200 Index. A company is considered to be domestic if (i) the company is incorporated in Australia and traded on the ASX; (ii) the company is incorporated overseas but has an exclusive listing on the ASX; or (iii) the company is incorporated overseas and is traded on other overseas markets, but most of the trading activity occurs on the ASX.

When determining the domestic or foreign-domicile classification, the value and volume of shares traded on the ASX relative to any overseas market listings, are reviewed across various time periods of up to 12 months. Changes in classification will typically be made in cases where there is a clear and sustained majority of trading (60% or more) on the ASX relative to other overseas market listings, or vice versa. Any changes in classification as a result of a merger or acquisition are reviewed on case-by-case basis.

- *Eligible Securities.* To be eligible, all common and equity preferred stocks (which are not of a fixed income nature) must be classified by GICS. Hybrid stocks, such as convertible stock, bonds, warrants and preferred stock that provide a guaranteed fixed return, are not eligible. Listed investment companies and listed investment trusts that invest in a portfolio of securities are not eligible. Equity and mortgage REITs are eligible for inclusion. Companies that are currently the target of an acquisition are ineligible.
- *Market Capitalization.* The market capitalization criterion for stock inclusion is based upon the daily average market capitalization of a security over the last three months. The ASX stock price history (last three months, adjusted for price-adjusting corporate actions), latest available shares on issue and the investable weight factor (“**IWF**”) are the relevant variables for the calculation. The IWF is a variable that is primarily used to determine the available float of a security for ASX-listed securities; and
- *Liquidity.* Only securities that are regularly traded are eligible for inclusion in the S&P/ASX 200 Index. A stock’s liquidity is measured relative to its peers. Relative Liquidity is calculated as follows:

$$\text{Relative Liquidity} = \frac{\text{Stock Median Liquidity}}{\text{Market Liquidity}}$$

Where:

- Stock Median Liquidity is the median daily value traded on the ASX for each stock divided by the average float/index weight-adjusted market capitalization for the previous three months; and
- Market Liquidity is calculated using the market capitalization-weighted average of the stock median liquidities of the 500 companies in the All Ordinaries index, an index that includes nearly all ordinary shares listed on the ASX.

Stocks must have a minimum Relative Liquidity of 50% to be included in the S&P/ASX 200 Index. If the Relative Liquidity of a stock drops below half of the 50% threshold, that stock becomes ineligible and is removed at the next rebalancing.

*Rebalancing.* Rebalancing of the S&P/ASX 200 Index occurs on a regular basis. Shares and IWFs updates are also applied regularly. The reference date used for the six months’ worth of trading data is the second to last Friday of the month prior to the rebalancing.

*Frequency.* The S&P/ASX 200 Index constituents are rebalanced quarterly, effective after the market close on the third Friday of March, June, September and December.

*Selection Buffers.* The S&P/ASX 200 Index applies selection buffers by rank for both additions and deletions. If a non-constituent ranks higher than the buffer specified below at a given review, the non-constituent is added to the S&P/ASX 200 Index in place of the existing constituent. Similarly, if a constituent falls outside the buffer rule, the constituent is removed from the S&P/ASX 200 Index. The following buffer aims to limit the level of index turnover that may take place at each quarterly rebalancing, maximizing the efficiency and limiting the cost associated with holding the index portfolio.

<b>Addition</b>	<b>Rank Buffer for Deletion</b>
179 <sup>th</sup> or higher	221 <sup>st</sup> or lower

This float-adjusted market capitalization rank buffer serves as the guideline used by the index committee to arrive at any potential constituent changes to the S&P/ASX 200 Index. However, the index committee has complete discretion to bypass these rules when circumstances warrant.

*Intra-Rebalancing Additions/Deletions.* Between rebalancing dates, an addition to the S&P/ASX 200 Index is generally made only if a vacancy is created by an index deletion. Index additions are made according to market size and liquidity. The reference date used to determine the index replacement is

determined on a case by case basis and taken closer to the time of the event that triggered the vacancy. Deletions can occur between index rebalancing dates due to acquisitions, mergers and spin-offs or due to suspension or bankruptcies. The decision to remove a stock from the S&P/ASX 200 Index will be made once there is sufficient evidence that the transaction will be completed. Stocks that are removed due to mergers & acquisitions activity are removed from the S&P/ASX 200 Index at the closing price of the security on the deletion date for cash-only offers. Otherwise the best available price in the market is used.

*Initial Public Offerings (IPOs).* An initial public offering or direct listing is added to the S&P/ASX 200 Index only when an appropriate vacancy occurs or due to a rebalance and is subject to proven liquidity for at least eight weeks. An exception may be made for extraordinary large offerings where sizeable trading volumes justify inclusion. Available price and value traded data as of the reference date is used to determine eligibility for IPOs and direct listings.

*Share Updates.* The share count for all S&P/ASX 200 Index constituents are reviewed quarterly and are rounded to the nearest thousand ('000).

Share updates for foreign-domiciled securities will take place at each quarterly rebalancing. The update to the number of shares outstanding will take place only when the three-month average of CHESSE Depository Interests ("CDIs") or the total securities held in the Australian branch of issuer sponsored register (where supplied) and in CHESSE, on the rebalancing reference date, differs from the current number of shares used by 5% or more.

Where CDI information is not supplied to the ASX by the company or the company's share register, estimates for Australian equity capital will be drawn from CHESSE data and, ultimately, registry-sourced data.

### **Calculation of the S&P/ASX 200 Index**

The S&P/ASX 200 Index is calculated using a base-weighted aggregate methodology so that the level of the S&P/ASX 200 Index reflects the total market value of all the component stocks relative to a particular base period. The total market value of a company is determined by multiplying the price of its stock by the number of shares available after float (IWF) adjustment. An indexed number is used to represent the result of this calculation in order to make the value easier to work with and track over time.

*IWFs.* A stock's weight in the S&P/ASX 200 Index is determined by the float-adjusted market capitalization of the stock. The number of shares outstanding is reduced to exclude closely held shares from the calculation of the S&P/ASX 200 Index because such shares are not available to investors. The S&P/ASX 200 Index calculates an IWF, which is the percentage of total shares outstanding that are included in the calculation of the S&P/ASX 200 Index. All constituents in the S&P/ASX 200 Index are assigned an IWF. A company must have a minimum IWF of 0.15 to be eligible for index inclusion, however an IWF at or above that level is not necessary for ongoing index membership. The IWF for foreign-domiciled securities in the S&P/ASX 200 Index is typically set to 1. IWFs are reviewed annually as part of the September quarterly rebalancing. In addition to the annual IWF review, certain events may warrant an intra-quarter or quarterly IWF update.

On any given day, the S&P/ASX 200 Index value is the quotient of the total available market capitalization of its constituents and its divisor. The key to index maintenance is the adjustment of the divisor. The purpose of the index divisor is to maintain the continuity of an index level following the implementation of corporate actions, index rebalancing events or other non-market driven actions. Index maintenance – reflecting changes in shares outstanding, corporate actions, addition or deletion of stocks to the S&P/ASX 200 Index – should not change the level of the S&P/ASX 200 Index. Any change to the stocks in the S&P/ASX 200 Index that alters the total market value of the S&P/ASX 200 Index while holding stock prices constant will require a divisor adjustment.

## Index Governance

The S&P/ASX 200 Index is maintained by the S&P/ASX index committee. S&P Dow Jones chairs the index committee, which is comprised of five voting members representing both S&P Dow Jones and the ASX.

The S&P/ASX index committee meets regularly to review market developments and convenes as needed to address major corporate actions. At each meeting, the index committee may review pending corporate actions that may affect index constituents, statistics comparing the composition of the S&P/ASX 200 Index to the market, companies that are being considered as candidates for addition to the S&P/ASX 200 Index and any significant market events. In addition, the index committee may revise index policy covering rules for selecting companies, treatment of dividends, share counts or other matters.

The index committee of the S&P/ASX 200 Index reserves the right to make exceptions when applying the methodology if the need arises. At least once within any twelve-month period, the index committee reviews the methodology to ensure that the S&P/ASX 200 Index continues to achieve the stated objectives and that the data and methodology remain effective.

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The composition of the S&P 500<sup>®</sup> Equal Weight Index, the S&P MidCap 400<sup>®</sup> Equal Weight Index and the S&P SmallCap 600<sup>®</sup> Equal Weight Index is the same as that of the S&P 500<sup>®</sup> Index, the S&P MidCap 400<sup>®</sup> Index and the S&P SmallCap 600<sup>®</sup> Index (each, an “**S&P U.S. Index**” and collectively, the “**S&P U.S. Indices**”), respectively. For additional information about the S&P U.S. Indices, please see “Equity Index Descriptions — The S&P U.S. Indices” in this underlying supplement.

### The S&P 500<sup>®</sup> Equal Weight Index

The S&P 500<sup>®</sup> Equal Weight Index is an equal-weighted version of the S&P 500<sup>®</sup> Index. The S&P 500<sup>®</sup> Index consists of stocks of 500 companies selected to provide a performance benchmark for the large market capitalization segment of the U.S. equity markets. The S&P 500<sup>®</sup> Equal Weight Index is reported by Bloomberg L.P. under the ticker symbol “SPW.”

### The S&P MidCap 400<sup>®</sup> Equal Weight Index

The S&P MidCap 400<sup>®</sup> Equal Weight Index is an equal-weighted version of the S&P MidCap 400<sup>®</sup> Index. The S&P MidCap 400<sup>®</sup> Index consists of stocks of 400 companies selected to provide a performance benchmark for the mid-size market capitalization segment of the U.S. equity markets. The S&P MidCap 400<sup>®</sup> Equal Weight Index is reported by Bloomberg L.P. under the ticker symbol “MIDEWI.”

### The S&P SmallCap 600<sup>®</sup> Equal Weight Index

The S&P SmallCap 600<sup>®</sup> Equal Weight Index is an equal-weighted version of the S&P SmallCap 600<sup>®</sup> Index. The S&P SmallCap 600<sup>®</sup> Index consists of stocks of 600 companies selected to provide a performance benchmark for the small market capitalization segment of the U.S. equity markets. The S&P SmallCap 600<sup>®</sup> Equal Weight Index is reported by Bloomberg L.P. under the ticker symbol “SMLEWI.”

### Methodology of the S&P Equal Weight Indices

Composition of an S&P Equal Weight Index is the same as that of the corresponding S&P U.S. Index. Constituent changes are incorporated in an S&P Equal Weight Index as and when they are made in the corresponding S&P U.S. Index. When a company is added to an S&P Equal Weight Index in the middle of the quarter, it takes the weight of the company that it replaced. The one exception is when a company is removed from an S&P Equal Weight Index at a price of \$0.00. In that case, the company’s replacement is added to that S&P Equal Weight Index at the weight using the closing value of previous day or the most immediate prior business day that the deleted company was not valued at \$0.00.

Each S&P Equal Weight Index is generally calculated, maintained and governed using the same methodology as the corresponding S&P U.S. Index, subject to the equal weight methodology described below. For additional information about the calculation, maintenance and governance of the S&P U.S. Indices, please see “Indices—The S&P U.S. Indices” in this underlying supplement.

Each constituent in an S&P Equal Weight Index is equally weighted rather than weighted by float-adjusted market capitalization. Each S&P Equal Weight Index is reset to equal weight quarterly after the market close on the third Friday of March, June, September and December. The reference date for weighting is the Wednesday prior to the second Friday of the reweighting month and changes are effective after the close of the following Friday using prices as of the reweighting reference date and

membership, shares outstanding and investable weight factors (“**IWFs**”) as of the reweighting effective date.

To calculate an S&P Equal Weight Index, the market capitalization for each index constituent is redefined so that each index constituent has an equal weight in the index at each rebalancing date. In addition to being the product of the stock price, the stock’s shares outstanding and the stock’s IWF, an additional weight factor (“**AWF**”) is also introduced in the market capitalization calculation to establish equal weighting. The AWF of a stock is the adjustment factor of that stock assigned at each index rebalancing date that makes all index constituents’ modified market capitalization equal (and, therefore, equal weight), while maintaining the total market value of the overall index. The index value is not altered by index rebalancings. However, since prices and outstanding shares will have changed since the last rebalancing, the divisor will change at the rebalancing.

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## THE S&P 500® LOW VOLATILITY HIGH DIVIDEND INDEX

All information contained in this underlying supplement regarding the S&P 500® Low Volatility High Dividend Index (the “**Low Volatility High Dividend Index**”), including, without limitation, its make-up, method of calculation and changes in its components, has been derived from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by, S&P Dow Jones Indices LLC (“**S&P Dow Jones**”). The Low Volatility High Dividend Index is calculated, maintained and published by S&P Dow Jones. S&P Dow Jones has no obligation to continue to publish, and may discontinue the publication of, the Low Volatility High Dividend Index.

The price return of the Low Volatility High Dividend Index is reported by Bloomberg, L.P. under the ticker symbol “SP5LVHD.” The Low Volatility High Dividend Index began publishing on September 17, 2012 and has a base date of January 31, 1990 and a base value of 1,000.

The Low Volatility High Dividend Index is a modified dividend yield-weighted index that is designed to measure the performance of the 50 least volatile among the 75 highest dividend-yielding companies in the S&P 500® Index, subject to sector and individual constituent concentration limits. Although the Low Volatility High Dividend Index measures the performance of high dividend-yielding companies, it is a price return index and, therefore, the return on the Low Volatility High Dividend Index will not include any dividends paid on the securities that make up the Low Volatility High Dividend Index.

### Index Constituent Selection

To be eligible for inclusion in the Low Volatility High Dividend Index, a stock must be a constituent of the S&P 500® Index. For additional information about the S&P 500® Index, including the methodology for inclusion in the S&P 500® Index, see “Equity Index Descriptions — The S&P U.S. Indices” in this underlying supplement. In addition, generally a stock must have been issued and trading on all trading days in the 12 months leading up to the rebalancing reference date to be included in the Low Volatility High Dividend Index.

Some companies may have more than one share class or more than one listing in the S&P 500® Index. In the Low Volatility High Dividend Index, each company is represented once by the Designated Listing, which is the share class with both the highest one-year trading liquidity (as defined by median daily value traded) and largest float-adjusted market capitalization. When the liquidity and market capitalization indicators are in conflict, S&P Dow Jones analyses the relative differences between the two values placing a greater importance on liquidity.

S&P Dow Jones selects the stocks to be included in the Low Volatility High Dividend Index by ranking all stocks in the selection universe in descending order by their 12-month trailing dividend yield, calculated as their dividends per share for the prior 12 months *divided by* the stock price as of the rebalancing reference date. Special dividends are not considered in the calculation of dividend yields. The top 75 stocks with the highest dividend yield are selected, with the number of stocks from each Global Industry Classification Standard (“**GICS**®”) sector capped at 10. If the number of stocks from a GICS® sector reaches 10, the remaining highest yielding stocks from other sectors are selected until the number of selected stocks reaches 75. Using available price return data for the trailing 252 trading days leading up to the rebalancing reference date, the realized volatilities of the 75 selected highest yielding stocks are calculated. Realized volatility is defined as the standard deviation of the stock’s daily price returns over the prior 252 trading days. Those 75 stocks are then ranked in ascending order based on their realized volatility. The 50 stocks with the lowest realized volatility form the Low Volatility High Dividend Index.

At the discretion of S&P Dow Jones, a stock may be excluded from the Low Volatility High Dividend Index, or not considered for membership, at a semi-annual rebalancing if S&P Dow Jones determines the stock’s dividend yield to be unsustainable.

### Index Constituent Weightings

At each rebalancing, the Low Volatility High Dividend Index weights constituents by trailing 12-month dividend yield, subject to the below constraints to ensure individual stock and sector diversification. The

Low Volatility High Dividend Index employs an optimization procedure that selects final weights to minimize the sum of the squared difference between capped weight and uncapped weight, divided by uncapped weight for each stock, while satisfying the following constraints: floor the weight for each single stock at a maximum of 0.05%, cap the weight for each single stock at a maximum of 3.0% and cap the weight of each GICS® sector at 25%.

### Index Rebalancing

The Low Volatility High Dividend Index is rebalanced semi-annually, effective after the close of the last business day of January and July based on market data from the rebalancing reference dates, which are the last business day of December and June, respectively. The constituents' shares are calculated using closing prices seven days prior to the rebalancing date as the reference price. The constituents' shares are calculated and assigned to each stock to arrive at the weights determined on the rebalancing reference date.

Except for major corporate actions, such as mergers and spin-offs, additions of stocks generally only take place at rebalancings. In addition, constituents removed from the S&P 500® Index are also removed from the Low Volatility High Dividend Index simultaneously.

### Index Calculation and Governance

The Low Volatility High Dividend Index is calculated using the same methodology as the S&P 500® Index, except that the constituents of the S&P 500® Low Volatility High Dividend Index are weighted by dividend yield. The Low Volatility High Dividend Index is governed using the same methodology as the S&P 500® Index. For additional information about the calculation and governance of the S&P 500® Index, see "Equity Index Descriptions — The S&P U.S. Indices" in this underlying supplement.

### Corporate Actions

The table below summarizes types of index maintenance adjustments and indicates whether or not a divisor adjustment is required.

<b>Corporate Action</b>	<b>Treatment</b>
<b>Change in shares outstanding</b>	Shares outstanding changes are offset by an adjustment factor (AWF). There is no change to the market capitalization of the Low Volatility High Dividend Index and no divisor adjustment.
<b>Split/reverse split</b>	Shares outstanding are adjusted by the split ratio. Stock price is adjusted by the split ratio. There is no change to the market capitalization of the Low Volatility High Dividend Index and no divisor adjustment.
<b>Spin-off</b>	A spin-off company is added to the Low Volatility High Dividend Index of which the parent is a constituent, at a zero price at the market close of the day before the ex-date (with no divisor adjustment). The spun-off company is then removed after at least one day of regular way trading.
<b>Change in IWF</b>	IWF changes are offset by an AWF. There is no change to the market capitalization of the Low Volatility High Dividend Index and no divisor adjustment.
<b>Ordinary dividend</b>	When a company pays an ordinary cash dividend, the Low Volatility High Dividend Index does not make any adjustments to the price or shares of the stock. As a result, there are no divisor adjustments to the Low Volatility High Dividend Index.

<b>Corporate Action</b>	<b>Treatment</b>
<b>Special dividend</b>	The stock price is adjusted by the amount of the dividend. The net change to the market capitalization of the Low Volatility High Dividend Index causes a divisor adjustment.
<b>Rights offering</b>	All rights offerings that are in the money on the ex-date are applied under the assumption that the rights are fully subscribed. The stock price is adjusted by the value of the rights and the shares outstanding are increased by the rights ratio. The change in price and shares is offset by an AWF to keep the market capitalization (stock weight) of the Low Volatility High Dividend Index unchanged. There is no change to the market capitalization of that Select Industry Index and no divisor adjustment.

### **Other Adjustments**

In cases where there is no achievable market price for a stock being deleted, it may be removed at a zero or minimal price at the S&P Dow Jones' U.S. Index Committee's discretion, in recognition of the constraints faced by investors in trading bankrupt or suspended stocks.

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## THE S&P SELECT INDUSTRY INDICES

All information contained in this underlying supplement regarding the S&P® Banks Select Industry Index, the S&P® Biotechnology Select Industry Index, the S&P® Homebuilders Select Industry Index, the S&P® Metals & Mining Select Industry Index, the S&P® Oil & Gas Exploration & Production Select Industry Index, the S&P® Regional Banks Select Industry Index and the S&P® Retail Select Industry Index (each, a “**Select Industry Index**” and collectively, the “**Select Industry Indices**”), including, without limitation, their make-up, method of calculation and changes in their components, has been derived from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by, S&P Dow Jones Indices LLC (“**S&P Dow Jones**”). The Select Industry Indices are calculated, maintained and published by S&P Dow Jones. S&P Dow Jones has no obligation to continue to publish, and may discontinue the publication of, any of the Select Industry Indices.

The Select Industry Indices are modified equal-weighted indices that are designed to measure the performance of stocks comprising specific Global Industry Classification Standard (“**GICS**®”) sub-industries or groups of sub-industries in the S&P Total Market Index. Membership is based on a company’s GICS® classification, as well as liquidity and market capitalization requirements.

### The S&P Total Market Index

The S&P Total Market Index (the “**S&P TMI**”) offers broad market exposure to companies of all market capitalizations, including all eligible U.S. common equities with a primary listing on the New York Stock Exchange, NYSE Arca, NYSE American, Nasdaq Global Select Market, Nasdaq Global Market, Nasdaq Capital Market, Cboe BZX, Cboe BYX, Cboe EDGA or Cboe EDGX exchanges. Only U.S. companies are eligible for inclusion in the S&P TMI.

### The S&P® Banks Select Industry Index

The S&P® Banks Select Industry Index is a modified equal-weighted index that is designed to measure the performance of the following GICS® sub-industries of the S&P TMI: asset management and custody banks (must also meet the North American Industry Classification of depository credit intermediation); diversified banks; regional banks; diversified financial services; and commercial and residential mortgage finance. The S&P® Banks Select Industry Index is reported by Bloomberg L.P. under the ticker symbol “SPSIBK.”

### The S&P® Biotechnology Select Industry Index

The S&P® Biotechnology Select Industry Index is a modified equal-weighted index that is designed to measure the performance of the GICS® biotechnology sub-industry of the S&P TMI. The S&P® Biotechnology Select Industry Index may also include companies in the life sciences tools and services supplementary sub-industry. The S&P® Biotechnology Select Industry Index is reported by Bloomberg L.P. under the ticker symbol “SPSIBI.”

### The S&P® Homebuilders Select Industry Index

The S&P® Homebuilders Select Industry Index is a modified equal-weighted index that is designed to measure the performance of the GICS® homebuilding sub-industry of the S&P TMI. The S&P® Homebuilders Select Industry Index may also include companies in the following supplementary GICS® sub-industries: building products; home furnishings; home improvement retail; homefurnishing retail; and household appliances. The S&P® Homebuilders Select Industry Index is reported by Bloomberg L.P. under the ticker symbol “SPSIHO.”

### The S&P® Metals & Mining Select Industry Index

The S&P® Metals & Mining Select Industry Index is a modified equal-weighted index that is designed to measure the performance of the following GICS® sub-industries of the S&P TMI: aluminum; coal and consumable fuels; copper; diversified metals and mining; gold; precious metals and minerals; silver; and steel. The S&P® Metals & Mining Select Industry Index is reported by Bloomberg L.P. under the ticker symbol “SPSIMM.”

## The S&P® Oil & Gas Exploration & Production Select Industry Index

The S&P® Oil & Gas Exploration & Production Select Industry Index is a modified equal-weighted index that is designed to measure the performance of the following GICS® sub-industries of the S&P TMI: integrated oil and gas; oil and gas exploration and production; and oil and gas refining and marketing. The S&P® Oil & Gas Exploration & Production Select Industry Index is reported by Bloomberg L. P. under the ticker symbol “SPSIOP.”

## The S&P® Regional Banks Select Industry Index

The S&P® Regional Banks Select Industry Index is a modified equal-weighted index that is designed to measure the performance of the GICS® regional banks sub-industry of the S&P TMI. The S&P® Regional Banks Select Industry Index is reported by Bloomberg L.P. under the ticker symbol “SPSIRBK.”

## The S&P® Retail Select Industry Index

The S&P® Retail Select Industry Index is a modified equal-weighted index that is designed to measure the performance of the following GICS® sub-industries of the S&P TMI: apparel retail; automotive retail; broadline retail; computer and electronic retail; consumer staples merchandise retail; drug retail; food retailers; and other specialty retail. The S&P® Retail Select Industry Index is reported by Bloomberg L.P. under the ticker symbol “SPSIRE.”

## Select Industry Index Eligibility

To qualify for membership in a Select Industry Index, at each quarterly rebalancing, a company must satisfy the following criteria:

- be a member of the S&P TMI;
- be classified as a primary sub-industry stock (primary stock) for the relevant GICS® sub-industries for the relevant Select Industry Index;
- meet one of the following float-adjusted market capitalization (“**FMC**”) and float-adjusted liquidity ratio (“**FALR**”) requirements:
  - be a current constituent, have an FMC greater than or equal to US\$ 300 million and have an FALR greater than or equal to 50%;
  - have an FMC greater than or equal to US\$ 500 million and an FALR greater than or equal to 90%; or
  - have an FMC greater than or equal to US\$ 400 million and an FALR greater than or equal to 150%.

Notwithstanding the foregoing, to be eligible for inclusion in the S&P® Banks Select Industry Index, a company’s FMC must be above US\$ 2 billion and its FALR must be above 100%, and existing constituents of the S&P® Banks Select Industry Index are removed at the quarterly rebalancing date if either their FMC falls below US\$ 1 billion or their FALR falls below 50%.

In the event that fewer than 35 stocks are selected for each Select Industry Index using the eligible primary stocks, certain indices will select stocks for inclusion from a supplementary list of highly correlated sub-industries (supplementary stocks) based on a process established by S&P Dow Jones. Additionally, minimum FMC requirements may be relaxed for all Select Industry Indices to ensure that there are at least 22 stocks in each Select Industry Index as of each rebalancing effective date.

*Liquidity.* An FALR, defined as the annual dollar value traded *divided by* the FMC, is used to measure liquidity. Using composite pricing and all publicly reported U.S. consolidated volume, annual dollar value traded is defined as the average closing price *multiplied by* the historical volume over the 365 calendar days prior to the evaluation date. This is reduced to the available trading period for stocks that do not

have 365 calendar days of trading history. In these cases, the dollar value traded available as of the evaluation date is annualized. Liquidity requirements are reviewed during the quarterly rebalancings.

**Takeover Restrictions.** At the discretion of S&P Dow Jones, constituents with shareholder ownership restrictions defined in company bylaws may be deemed ineligible for inclusion in a Select Industry Index. Ownership restrictions preventing entities from replicating the index weight of a stock may be excluded from the eligible universe or removed from the relevant Select Industry Index. S&P Dow Jones will provide up to five days advance notification of a deletion between rebalancings due to ownership restrictions. If an S&P Dow Jones's index committee (the "**Index Committee**") decides to remove or exclude a company, that company is ineligible for re-entry or inclusion, respectively, for at least one full calendar year, beginning with the subsequent rebalance.

**Multiple Share Classes.** Some companies in the S&P TMI are represented by multiple share classes. Each company in the Select Industry Indices is represented once by the Designated Listing, which is the share class with both the highest one-year trading liquidity (as defined by median daily value traded) and largest FMC. When the liquidity and market capitalization indicators are in conflict, S&P Dow Jones analyses the relative differences between the two values placing a greater importance on liquidity.

### Calculation of the Select Industry Indices

The Select Industry Indices are equal-weighted, with adjustments to individual constituent weights to ensure concentration and liquidity requirements, and calculated by means of the divisor methodology used by S&P Dow Jones for the Select Industry Indices.

The index value of each Select Industry Index is simply the market value of that Select Industry Index *divided by* the index divisor:

$$\begin{aligned}\text{Index Value} &= (\text{Index Market Value}) / \text{Divisor} \\ \text{Index Market Value} &= \sum_i^N P_i \times \text{Shares}_i \times \text{IWF}_i \times \text{AWF}_i\end{aligned}$$

where  $N$  is the number of stocks in the index,  $P_i$  is the price of stock  $i$ ,  $\text{Shares}_i$  is total shares outstanding of stock  $i$ ,  $\text{IWF}_i$  is the float factor of stock  $i$  (as defined below), and  $\text{AWF}_i$  (Additional Weight Factor) is the adjustment factor of stock  $i$  assigned at each index rebalancing date,  $t$ , which makes all index constituents modified market capitalization equal (and, therefore, equal weight), while maintaining the total market value of the overall index. The AWF for each index constituent,  $i$ , at rebalancing date,  $t$ , is calculated by:

$$\text{AWF}_{i,t} = Z / (N \times \text{FloatAdjustedMarketValue}_{i,t})$$

where  $Z$  is an index-specific constant set for the purpose of deriving the AWF and, therefore, each stock's share count used in the index calculation (often referred to as modified index shares).

**Float Adjustment.** Float adjustment means that the number of shares outstanding is reduced to exclude shares that are held by other publicly traded companies, government agencies or certain types of strategic shareholders from the calculation of the index value because such shares are not available to investors. The goal of float adjustment is to adjust each company's total shares outstanding for long-term strategic shareholders, who often have interests such as maintaining control rather than securing the shorter-term economic fortunes of the company. Generally, these long-term strategic shareholders include, but are not limited to, officers and directors, private equity, venture capital and special equity firms, asset managers and insurance companies with direct board of director representation, other publicly traded companies that hold shares, holders of restricted shares, company-sponsored employee share plans/trusts, defined contribution plans/savings and investment plans, foundations or family trusts associated with the company, government entities at all levels (other than government retirement/pension funds), sovereign wealth funds and any individual person who controls a 5% or greater stake in a company as reported in regulatory filings. Restricted shares are generally not included in total shares outstanding except for shares held as part of a lock-up agreement. Shares that are not considered outstanding are also not included in the available float. These generally include treasury stock, stock options, equity participation units, warrants, preferred stock, convertible stock and rights.

For each component, S&P Dow Jones calculates an Investable Weight Factor (“**IWF**”), which represents the portion of the total shares outstanding that are considered part of the public float for purposes of the relevant Select Industry Index.

*Divisor.* Continuity in index values of each Select Industry Index following the implementation of corporate actions, index rebalancing events or other non-market driven actions is maintained by adjusting its divisor. Any change to the stocks in the relevant Select Industry Index that alters the total market value of the index while holding stock prices constant will require a divisor adjustment. These changes include additions to and deletions from the relevant Select Industry Index, rights issues, share buybacks and issuances and non-zero price spin-offs. The value of each Select Industry Index’s divisor over time is, in effect, a chronological summary of all changes affecting the base capital of that Select Industry Index. The divisor of each Select Industry Index is adjusted such that the index value of that Select Industry Index at an instant just prior to a change in base capital equals the index value of that Select Industry Index at an instant immediately following that change.

### **Constituent Weightings**

At each quarterly rebalancing, constituents are initially equal weighted with adjustments to ensure that, for a given theoretical portfolio value (“**TPV**”), each constituent’s weight in the relevant Select Industry Index does not exceed 4.5% of the FMC and the value that can be traded in three days. No stock can have a weight greater than 4.5% in the relevant Select Industry Index. TPVs are reviewed annually in September, incorporating index-linked exchange traded product assets under management (“**AUM**”) using the below process:

1. Determine the maximum aggregate AUM tracking the relevant Select Industry Index over the past year, based on index-linked exchange traded product’s AUM from the previous September, December, March and June, as well as the latest available month-end data point.
2. Round the maximum value up to the nearest billion.
3. Add a 20% buffer to the result and again round up to the nearest billion for the final TPV.

If there are no index-linked exchange traded products tracking the relevant Select Industry Index, the TPV for that index is set at US\$ 2 billion. Any updates to the TPV for an index are made at the discretion of the Index Committee and announced to clients with ample lead time.

S&P Dow Jones Indices calculates a maximum constituent weight for each index constituent equal to the lesser of (i) 4.5%, (ii) 3 *times* the ratio of the three-month median daily value traded (“**MDVT**”) of the index constituent to its TPV and (iii) 4.5% *times* the ratio of the index constituent’s FMC to its TPV.

The reference date for assessing the 3-month MDVT and stock price is after the close on the last business day of February, May, August and November for the rebalancings effective after the close on the third Friday of March, June, September and December, respectively.

Each constituent’s initial equal weight is compared to the calculated maximum constituent weight, and the constituent’s weight is set to the lesser of the maximum constituent weight or the initial equal weight. If the resulting index weights do not sum to 100%, any excess weights are iteratively redistributed to the uncapped constituents.

If all constituents are capped and the resulting index weights still do not sum to 100%, the constraints are relaxed in the following order:

1. Maximum liquidity weight multiplier in increments of 0.1,
2. Single stock cap in increments of 0.1%,
3. TPV decreasing in increments of US\$ 100 million.

The process is repeated iteratively until a feasible solution is found. The single stock weight constraint's upper limit for the iterative process is 4.8%.

*Secondary Reweighting.* If, on the third to last business day of March, June, September or December, the aggregate weight of companies with index weights greater than 4.8% exceeds 50%, index weights reset to the previously determined weights using the data from that quarter's reference date, with an effective date as of after the close of the last business day of the month.

If a secondary reweighting is triggered, and existing constituent(s) were dropped since the prior quarterly rebalancing, the secondary reweighting re-runs the reweighting process using the same data from the latest quarterly rebalancing.

## **Maintenance of the Select Industry Indices**

*Rebalancing.* The membership of the Select Industry Indices is reviewed quarterly. Rebalancings occur after the closing on the third Friday of the quarter ending month. The reference date for additions and deletions is after the closing of the last trading date of the previous month. For index selection purposes, all Select Industry Indices use shares outstanding, GICS code and IWF figures as of the rebalancing effective date. Closing prices as of the Wednesday prior to the second Friday of the rebalancing month are used for setting index weights.

*Additions.* Stocks are added between rebalancings only if a deletion in the applicable Select Industry Index causes the stock count to fall below 22. In those cases, each stock deletion is accompanied by a stock addition. A new stock will be added to the applicable Select Industry Index at the weight of the deleted stock.

*Deletions.* A stock is deleted from the applicable Select Industry Index if the S&P TMI drops the stock. If a stock deletion causes the number of stocks in the applicable Select Industry Index to fall below 22, each stock deletion is accompanied by a corresponding stock addition. In the case of mergers involving two index constituents, the merged entity remains in the applicable Select Industry Index provided it satisfies the eligibility criteria. If the merged entity qualifies for index inclusion, the stock deemed the target is dropped, the index shares for the acquirer will remain unchanged, and the weightings of the remaining constituents adjust proportionally.

*GICS® Reclassifications.* If a constituent's GICS® classification changes to an ineligible sub-industry for a given Select Industry Index, the constituent is removed from that Select Industry Index at the subsequent rebalancing.

*Spin-Offs.* The S&P Select Industry Indices follow the S&P TMI treatment of spin-offs. In general, both the parent and spin-off company remain in the relevant Select Industry Index until the subsequent rebalancing. The spin-off company is added to the relevant Select Industry Index at a zero price at the close of the day before the ex-date. No price adjustment is applied to the parent and there is no divisor change. If the spin-off company is dropped from S&P TMI the weight of the spun-off company is added back to the parent stock's weight after at least one day of trading.

*Adjustments.* The table below summarizes the treatment of certain corporate actions.

<b>Corporate Action</b>	<b>Treatment</b>
<b>Change in shares outstanding</b>	Shares outstanding changes are offset by an adjustment factor (AWF). There is no change to the market capitalization of the relevant Select Industry Index and no divisor adjustment.
<b>Split/reverse split</b>	Shares outstanding are adjusted by the split ratio. Stock price is adjusted by the split ratio. There is no change to the market capitalization of the relevant Select Industry Index and no divisor adjustment.

<b>Corporate Action</b>	<b>Treatment</b>
<b>Change in IWF</b>	IWF changes are offset by an AWF. There is no change to the market capitalization of the relevant Select Industry Index and no divisor adjustment.
<b>Ordinary dividend</b>	When a company pays an ordinary cash dividend, the relevant Select Industry Index does not make any adjustments to the price or shares of the stock. As a result, there are no divisor adjustments to that Select Industry Index.
<b>Special dividend</b>	The stock price is adjusted by the amount of the dividend. The net change to the market capitalization of the relevant Select Industry Index causes a divisor adjustment.
<b>Rights offering</b>	All rights offerings that are in the money on the ex-date are applied under the assumption that the rights are fully subscribed. The stock price is adjusted by the value of the rights and the shares outstanding are increased by the rights ratio. The change in price and shares is offset by an AWF to keep the market capitalization (stock weight) of the relevant Select Industry Index unchanged. There is no change to the market capitalization of that Select Industry Index and no divisor adjustment.

### **Governance of the Select Industry Indices**

The Index Committee maintains the Select Industry Indices. All Index Committee members are full-time professional members of S&P Dow Jones's staff. The Index Committee meets regularly. At each meeting, the Index Committee reviews pending corporate actions that may affect the Select Industry Indices constituents, statistics comparing the composition of the Select Industry Indices to the market, companies that are being considered as candidates for addition to a Select Industry Index and any significant market events. In addition, the Index Committee may revise index policy covering rules for selecting companies, treatment of dividends, share counts or other matters.

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## THE S&P SELECT SECTOR INDICES

All information contained in this underlying supplement regarding the Communication Services Select Sector Index, the Consumer Discretionary Select Sector Index, the Consumer Staples Select Sector Index, the Energy Select Sector Index, the Financial Select Sector Index, the Health Care Select Sector Index, the Industrials Select Sector Index, the Materials Select Sector Index, the Real Estate Select Sector Index, the Technology Select Sector Index and the Utilities Select Sector Index (each, a **“Select Sector Index”** and collectively, the **“Select Sector Indices”**), including, without limitation, their make-up, method of calculation and changes in their components, has been derived from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by, S&P Dow Jones Indices LLC (**“S&P Dow Jones”**). The Select Sector Indices are calculated, maintained and published by S&P Dow Jones. S&P Dow Jones has no obligation to continue to publish, and may discontinue the publication of, any of the Select Sector Indices.

The constituents included in each Select Sector Index at each moment in time are members of the S&P 500<sup>®</sup> Index. For additional information about the S&P 500<sup>®</sup> Index, please see “Equity Index Descriptions — The S&P U.S. Indices” in this underlying supplement. S&P Dow Jones assigns constituents to a Select Sector Index based on the constituents’ classification under the Global Industry Classification Standard (**“GICS<sup>®</sup>”**).

### **The Communication Services Select Sector Index**

The Communication Services Select Sector Index is a capped modified market capitalization-weighted index that measures the performance of the GICS<sup>®</sup> communication services sector, which currently includes companies in the following industries: diversified telecommunication services; wireless telecommunication services; media; entertainment; and interactive media and services. The Communication Services Select Sector Index is reported by Bloomberg L.P. under the ticker symbol “IXCPR.”

### **The Consumer Discretionary Select Sector Index**

The Consumer Discretionary Select Sector Index is a capped modified market capitalization-weighted index that measures the performance of the GICS<sup>®</sup> consumer discretionary sector, which currently includes companies in the following industries: automobile components; automobiles; household durables; leisure products; textiles, apparel and luxury goods; hotels, restaurants and leisure; diversified consumer services; distributors; broadline retail; and specialty retail. The Consumer Discretionary Select Sector Index is reported by Bloomberg L.P. under the ticker symbol “IXY.”

### **The Consumer Staples Select Sector Index**

The Consumer Staples Select Sector Index is a capped modified market capitalization-weighted index that measures the performance of the GICS<sup>®</sup> consumer staples sector, which currently includes companies in the following industries: consumer staples distribution and retail; beverages; food products; tobacco; household products; and personal care products. The Consumer Staples Select Sector Index is reported by Bloomberg L.P. under the ticker symbol “IXR.”

### **The Energy Select Sector Index**

The Energy Select Sector Index is a capped modified market capitalization-weighted index that measures the performance of the GICS<sup>®</sup> energy sector, which currently includes companies in the following industries: energy equipment and services; and oil, gas and consumable fuels. The Energy Select Sector Index is reported by Bloomberg L.P. under the ticker symbol “IXE.”

### **The Financial Select Sector Index**

The Financial Select Sector Index is a capped modified market capitalization-weighted index that measures the performance of the GICS<sup>®</sup> financials sector, which currently includes companies in the following industries: banks; financial services; consumer finance; capital markets; mortgage real estate

investment trusts (REITs); and insurance. The Financial Select Sector Index is reported by Bloomberg L.P. under the ticker symbol “IXM.”

### **The Health Care Select Sector Index**

The Health Care Select Sector Index is a capped modified market capitalization-weighted index that measures the performance of the GICS® health care sector, which currently includes companies in the following industries: health care equipment and supplies; health care providers and services; health care technology; biotechnology; pharmaceuticals; and life sciences tools and services. The Health Care Select Sector Index is reported by Bloomberg L.P. under the ticker symbol “IXV.”

### **The Industrials Select Sector Index**

The Industrials Select Sector Index is a capped modified market capitalization-weighted index that measures the performance of the GICS® industrials sector, which currently includes companies in the following industries: aerospace and defense; building products; construction and engineering; electrical equipment; industrial conglomerates; machinery; trading companies and distributors; commercial services and supplies; professional services; air freight and logistics; passenger airlines; marine transportation; ground transportation; and transportation infrastructure. The Industrials Select Sector Index is reported by Bloomberg L.P. under the ticker symbol “IXI.”

### **The Materials Select Sector Index**

The Materials Select Sector Index is a capped modified market capitalization-weighted index that measures the performance of the GICS® materials sector, which currently includes companies in the following industries: chemicals; construction materials; containers and packaging; metals and mining; and paper and forest products. The Materials Select Sector Index is reported by Bloomberg L.P. under the ticker symbol “IXB.”

### **The Real Estate Select Sector Index**

The Real Estate Select Sector Index is a capped modified market capitalization-weighted index that measures the performance of the GICS® real estate sector, which currently includes companies in the following industries: diversified REITs; industrial REITs; hotel and resort REITs; office REITs; health care REITs; residential REITs; retail REITs; specialized REITs; and real estate management and development. The Real Estate Select Sector Index is reported by Bloomberg L.P. under the ticker symbol “IXRE.”

### **The Technology Select Sector Index**

The Technology Select Sector Index is a capped modified market capitalization-weighted index that measures the performance of the GICS® information technology sector, which currently includes companies in the following industries: IT services; software; communications equipment; technology hardware, storage and peripherals; electronic equipment, instruments and components; and semiconductors and semiconductor equipment. The Technology Select Sector Index is reported by Bloomberg L.P. under the ticker symbol “IXT.”

### **The Utilities Select Sector Index**

The Utilities Select Sector Index is a capped modified market capitalization-weighted index that measures the performance of the GICS® utilities sector, which currently includes companies in the following industries: electric utilities; gas utilities; multi-utilities; water utilities; and independent power and renewable electricity producers. The Utilities Select Sector Index is reported by Bloomberg L.P. under the ticker symbol “IXU.”

### **Select Sector Index Capping Methodology**

The methodology for capped indices follows an identical approach to market capitalization weighted indices except that the indices apply an additional weight factor (“**AWF**”) to adjust the float-adjusted

market capitalization (“**FMC**”) to a value such that the index weight constraints are satisfied. Any intra-quarter addition will be added to the relevant Select Sector Index with an AWF of 1.

Each Select Sector Index is capped market capitalization weighted. For capping purposes, the Select Sector Indices are rebalanced quarterly after the close of business on the third Friday of March, June, September and December using the following procedures:

1. The rebalancing reference date is the Wednesday prior to the second Friday of March, June, September and December.
2. With prices reflected on the rebalancing reference date, adjusted for any applicable corporate actions, and membership, shares outstanding and investable weight factors (“**IWFs**”) as of the rebalancing effective date, each company is weighted by FMC.
3. If any company has an FMC weight greater than 24%, each company’s weight is capped at 23%, which allows for a 2% buffer.
4. The sum of the companies with weights greater than 4.8% cannot exceed 50% of the total index weight. These caps are set to allow for a buffer below the 5% limit.
5. If the rule in paragraph 4 is breached, the weight of each company with a weight greater than 4.8% is capped at:

$$W_i^{Capped} = \max \left( \frac{45\% \times W_i}{\sum_i^N W_i}, 4.5\% \right)$$

Where:

$N$  = total number of companies with index weights over 4.8%, after checking the single company cap

$W_i$  = index weight of the  $N$  companies with individual company weights over 4.8%, after checking the single company cap

Set 4.5% and 45% caps to allow for a buffer below the 5% limit.

6. Proportionally redistribute the excess weight from paragraphs 3 to 5 to companies with an initial weight less than 4.8%, setting a 4.5% upper bound on the companies’ index weight.
7. Assign index share amounts to each constituent to arrive at the weights calculated above. Since index shares are assigned based on prices one week prior to rebalancing, the actual weight of each constituent at the rebalancing differs somewhat from these weights due to market movements.

When companies represented in the Select Sector Indices are represented by multiple share classes, maximum weight capping is based on company FMC, with the weight of multiple-class companies allocated proportionally to each share class based on FMC as of the rebalancing reference date. If no capping is required, both share classes remain in the relevant Select Sector Index at their natural FMC weight.

*Secondary Reweighting Check.* If, on the second to last business day of March, June, September or December, a company’s weight exceeds 24%, or the sum of the companies with weights greater than 4.8% exceeds 50%, the capping breach triggers a secondary reweighting with an effective date as of after the close of the last business day of the month. The secondary reweighting uses capped index weights as of the second to last business days of March, June, September or December, utilizing the current AWFs and membership, shares outstanding and IWFs as of the reweighting effective date.

## Calculation, Maintenance and Governance of the Select Sector Indices

The Select Sector Indices are calculated, maintained and governed using the same methodology as the S&P 500® Index, subject to the capping methodology described above. For additional information about the calculation, maintenance and governance of the S&P 500® Index, please see “Equity Index Descriptions — The S&P U.S. Indices” in this underlying supplement.

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## THE S&P STYLE INDICES

All information contained in this underlying supplement regarding the S&P 500<sup>®</sup> Growth Index, the S&P MidCap 400<sup>®</sup> Growth Index and the S&P SmallCap 600<sup>®</sup> Growth Index (each, an “**S&P Growth Index**” and collectively, the “**S&P Growth Indices**”) and the S&P 500<sup>®</sup> Value Index, the S&P MidCap 400<sup>®</sup> Value Index and the S&P SmallCap 600<sup>®</sup> Value Index (each, an “**S&P Value Index**” and collectively, the “**S&P Value Indices**”), including, without limitation, their make-up, method of calculation and changes in their components, has been derived from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by, S&P Dow Jones Indices LLC (“**S&P Dow Jones**”). The S&P Growth Indices and the S&P Value Indices (each, an “**S&P Style Index**” and collectively, the “**S&P Style Indices**”) are calculated, maintained and published by S&P Dow Jones. S&P Dow Jones has no obligation to continue to publish, and may discontinue the publication of, any of the S&P Style Indices.

Each S&P Style Index is a subset of the S&P 500<sup>®</sup> Index, the S&P MidCap 400<sup>®</sup> Index or the S&P SmallCap 600<sup>®</sup> Index (each, an “**S&P U.S. Index**” and collectively, the “**S&P U.S. Indices**”), as applicable. For additional information about the S&P U.S. Indices, please see “Equity Index Descriptions — The S&P U.S. Indices” in this underlying supplement.

### **The S&P 500<sup>®</sup> Growth Index**

The S&P 500<sup>®</sup> Growth Index is a subset of the S&P 500<sup>®</sup> Index and is a capped float-adjusted market capitalization-weighted index composed of large-capitalization U.S. equities that exhibit growth characteristics as determined by S&P Dow Jones. The S&P 500<sup>®</sup> Index consists of stocks of 500 companies selected to provide a performance benchmark for the large market capitalization segment of the U.S. equity markets. The S&P 500<sup>®</sup> Growth Index is reported by Bloomberg L.P. under the ticker symbol “SGX.”

### **The S&P 500<sup>®</sup> Value Index**

The S&P 500<sup>®</sup> Value Index is a subset of the S&P 500<sup>®</sup> Index and is a capped float-adjusted market capitalization-weighted index composed of large-capitalization U.S. equities that exhibit value characteristics as determined by S&P Dow Jones. The S&P 500<sup>®</sup> Index consists of stocks of 500 companies selected to provide a performance benchmark for the large market capitalization segment of the U.S. equity markets. The S&P 500<sup>®</sup> Value Index is reported by Bloomberg L.P. under the ticker symbol “SVX.”

### **The S&P MidCap 400<sup>®</sup> Growth Index**

The S&P MidCap 400<sup>®</sup> Growth Index is a subset of the S&P MidCap 400<sup>®</sup> Index and is a capped float-adjusted market capitalization-weighted index composed of medium-capitalization U.S. equities that exhibit growth characteristics as determined by S&P Dow Jones. The S&P MidCap 400<sup>®</sup> Index consists of stocks of 400 companies selected to provide a performance benchmark for the mid-size market capitalization segment of the U.S. equity markets. The S&P MidCap 400<sup>®</sup> Growth Index is reported by Bloomberg L.P. under the ticker symbol “MIDG.”

### **The S&P MidCap 400<sup>®</sup> Value Index**

The S&P MidCap 400<sup>®</sup> Value Index is a subset of the S&P MidCap 400<sup>®</sup> Index and is a capped float-adjusted market capitalization-weighted index composed of medium-capitalization U.S. equities that exhibit value characteristics as determined by S&P Dow Jones. The S&P MidCap 400<sup>®</sup> Index consists of stocks of 400 companies selected to provide a performance benchmark for the mid-size market capitalization segment of the U.S. equity markets. The S&P MidCap 400<sup>®</sup> Value Index is reported by Bloomberg L.P. under the ticker symbol “MIDV.”

### **The S&P SmallCap 600<sup>®</sup> Growth Index**

The S&P SmallCap 600<sup>®</sup> Growth Index is a subset of the S&P SmallCap 600<sup>®</sup> Index and is a capped float-adjusted market capitalization-weighted index composed of small-capitalization U.S. equities that

exhibit growth characteristics as determined by S&P Dow Jones. The S&P SmallCap 600<sup>®</sup> Index consists of stocks of 600 companies selected to provide a performance benchmark for the small market capitalization segment of the U.S. equity markets. The S&P SmallCap 600<sup>®</sup> Growth Index is reported by Bloomberg L.P. under the ticker symbol “SMLG.”

### The S&P SmallCap 600<sup>®</sup> Value Index

The S&P SmallCap 600<sup>®</sup> Value Index is a subset of the S&P SmallCap 600<sup>®</sup> Index and is a capped float-adjusted market capitalization-weighted index composed of small-capitalization U.S. equities that exhibit value characteristics as determined by S&P Dow Jones. The S&P SmallCap 600<sup>®</sup> Index consists of stocks of 600 companies selected to provide a performance benchmark for the small market capitalization segment of the U.S. equity markets. The S&P SmallCap 600<sup>®</sup> Value Index is reported by Bloomberg L.P. under the ticker symbol “SMLV.”

### Composition of the S&P Style Indices

Each S&P Style Index is a subset of the relevant S&P U.S. Index and is a capped float-adjusted market capitalization-weighted index. S&P Dow Jones allocates the complete float-adjusted market capitalization (“**FM**C”) of the companies included in the relevant S&P U.S. Index between the corresponding S&P Value Index and S&P Growth Index based on an assessment of those companies’ respective value and growth characteristics.

The market capitalization of companies exhibiting the strongest value characteristics relative to their respective growth characteristics is allocated to the relevant S&P Value Index (approximately 33% of the market capitalization of its parent index), and the market capitalization of companies exhibiting the strongest growth characteristics relative to their respective value characteristics (approximately 33% of the market capitalization of its parent index) is allocated to the corresponding S&P Growth Index. The market capitalization of the remaining companies included in the relevant S&P U.S. Index is split between the corresponding S&P Value Index and S&P Growth Index, with more of the market capitalization of companies exhibiting stronger value characteristics relative to their respective growth characteristics being allocated to the relevant S&P Value Index and more of the market capitalization of companies exhibiting stronger growth characteristics relative to their respective value characteristics being allocated to the corresponding S&P Growth Index.

### Construction of the S&P Style Indices

Each S&P Style Index is derived from its parent index, the relevant S&P U.S. Index. An S&P Style Index cannot have a constituent that is not also a member of the relevant S&P U.S. Index.

*Style Factors.* The S&P Growth Indices and the S&P Value Indices measure growth and value along two separate dimensions, with three factors each used to measure growth and value. The list of factors used is outlined in the table below.

<b>Growth Factors</b>	<b>Value Factors</b>
Three-year net change in earnings per share (excluding extra items) over current price per share	Book value to price ratio
Three-year sales per share growth rate	Earnings to price ratio
Momentum (12-month % price change)	Sales to price ratio

- If earnings from three years prior are not available, two-year change in earnings per share (excluding extra items) over price per share is used. If earnings from two years prior are not available, one-year change in earnings per share (excluding extra items) over price per share is used. If earnings from one year prior are not available, the factor is set equal to zero.
- If sales from three years prior are not available, two-year sales per share growth rate is used. If sales from two years prior are not available, one-year sales per share growth rate is used. If

sales from one year prior are not available, the factor is set equal to zero. If the starting value is less than zero, the score is multiplied by a factor of negative 1.

- If there is not enough trading history to calculate 12-month momentum, then the momentum factor is calculated from the stock's listing date.
- If book value to price ratio, earnings to price ratio or sales to price ratio is not available, then such factor is set equal to zero.

*Style Scores.* Raw values for each of the above factors are calculated by S&P Dow Jones for each company in the S&P Total Market Index universe. The S&P Total Market Index is a FMC-weighted index designed to track the broad U.S. equity market, including large-, mid-, small- and micro-cap stocks.

These raw values are first "**winsorized**" (a statistical tool used to reduce the influence of outliers in data) to the 90<sup>th</sup> percentile and then standardized by dividing the difference between each company's raw score and the mean of the entire set by the standard deviation of the entire set. A "**growth score**" for each company is computed as the average of the standardized values of the three growth factors. Similarly, a "**value score**" for each company is computed as the average of the standardized values of the three value factors. At the end of this step each company has a growth score and a value score.

*Establishing Style Baskets.* Companies within the relevant S&P U.S. Index are then ranked based on their growth and value scores. A company with a high growth score would have a higher "**growth rank**," while a company with a low value score would have a lower "**value rank**." For example, the index constituent with the highest value score would have a value rank of 1, while the index constituent with the lowest value score would have a value rank of 500 in the case of the S&P 500<sup>®</sup> Index, 400 in the case of the S&P MidCap 400<sup>®</sup> Index or 600 in the case of the S&P SmallCap 600<sup>®</sup> Index.

The companies within the relevant S&P U.S. Index are then sorted in ascending order by the ratio of their growth rank to their value rank. The companies at the top of the list have a higher growth rank (or higher growth score) and a lower value rank (or lower value score) and, therefore, exhibit pure growth characteristics. The companies at the top of the list, comprising 33% of the total market capitalization of the relevant S&P U.S. Index, are included in the "**growth basket**."

The companies at the bottom of the list have a higher value rank (or higher value score) and a lower growth rank (or lower growth score) and, therefore, exhibit pure value characteristics. The companies at the bottom of the list, comprising 33% of the total market capitalization of the relevant S&P U.S. Index, are included in the "**value basket**."

The companies in the middle of the list have similar growth ranks and value ranks and, therefore, exhibit neither pure growth nor pure value characteristics. The companies in the middle of the list, comprising 34% of the total market capitalization of the relevant S&P U.S. Index, are included in the "**blended basket**."

*Capped Growth and Value Indices.* The style baskets described above are the starting points for the S&P Style Indices' construction. 100% of the FMC of a company in the value basket is assigned to the relevant S&P Value Index, and 100% of the FMC of a company in the growth basket is assigned to the corresponding S&P Growth Index.

The middle 34% of FMC consists of companies that have similar growth and value ranks. The FMC of these companies that are in the blended basket is distributed between the relevant S&P Value Index and the corresponding S&P Growth Index based on their distances from the midpoint of the growth basket and the midpoint of the value basket. The midpoint of each style basket is calculated as the average of value scores and growth scores of all companies in that style basket.

Based on back-tested results, the total market capitalization is approximately equally divided among each S&P Growth Index and its corresponding S&P Value Index. However, there is no mathematical procedure employed to force equal market capitalization for each S&P Growth Index and its corresponding S&P Value Index, since price movements of constituent stocks would result in inequality

immediately following any reconstitution. Therefore, the future allocation of the market capitalization to the S&P Style Indices may not be equal.

### **Constituent Weighting**

Until close on June 21, 2024, each S&P Style Index was market capitalization-weighted at each rebalancing. Beginning after close on June 21, 2024, each S&P Style Index is capped market capitalization-weighted at each rebalancing. For capping purposes, the S&P Style Indices are rebalanced quarterly after the close of business on the third Friday of March, June, September and December, using the following process and using a rebalancing reference date as of after the close of the Wednesday prior to the first Friday of March, June, September, and December.

*Step 1.* Based on prices on the rebalancing reference date (adjusted for any applicable corporate actions and membership, shares outstanding, investable weight factors (“**IWFs**”) and Growth/Value Factor as of the rebalancing effective date), each company is weighted by style-adjusted FMC.

*Step 2.* If any company weighs more than 24%, its weight is capped at 23%, which allows for a 2% buffer.

*Step 3.* Proportionally redistribute any excess weight to all uncapped companies within the relevant index. The process continues iteratively until no company breaches the 23% weight cap.

*Step 4.* The aggregate weight of companies with weights greater than 4.8% cannot exceed 50% of the total index weight, which allows for a buffer below the 5% limit.

*Step 5.* If the rule in Step 4 is breached, rank all companies in descending order by weight and reduce the weight of the smallest company whose weight is greater than 4.8% that causes the Step 4 breach to 4.5%. This process continues iteratively until Step 4 is satisfied.

*Step 6.* Assign index share amounts to each constituent to arrive at the weights calculated above.

*Step 7.* If, on the third to last business day of March, June, September, or December, a company has an index weight greater than 24%, or the sum of the companies with weights greater than 4.8% exceeds 50%, a secondary reweighting is triggered with the rebalancing effective date after the close of the last business day of the month, with any applicable reweighting changes appearing in daily proforma and corporate action files starting on the second to last business day of the month. The secondary reweighting uses the closing prices as of the third to last business day of March, June, September or December, and membership, shares outstanding, IWFs and Growth/Value Factor as of the rebalancing effective date.

When companies represented in the S&P Style Indices are represented by multiple share classes, maximum weight capping is based on style-adjusted company FMC, with the weight of multiple-class companies allocated proportionally to each share class based on its FMC as of the rebalancing reference date. If no capping is required, both share classes remain in the relevant S&P Style Index at their natural style-adjusted FMC.

### **Calculation of the S&P Style Indices**

Each S&P Style Index is calculated following S&P Dow Jones’s capped market capitalization-weighted, divisor-based index methodology. In other words, each S&P Style Index is calculated using the same methodology as the S&P U.S. Indices, subject to the capping methodology described above. See “Indices—The S&P U.S. Indices” in this underlying supplement for additional information.

### **Maintenance of the S&P Style Indices**

*Rebalancing.* Each S&P Style Index is rebalanced once a year in December. The rebalancings occur after the close on the third Friday of December. The reference date for growth and value expressions is after the close of the last trading date of the previous month. Style scores and growth and value midpoint averages are reset only once a year at the December rebalancing. For index selection purposes, all S&P

Style Indices use the index universe, shares outstanding and IWF figures as of the rebalancing effective date.

*Quarterly Reweighting.* For capping purposes, the indices reweight quarterly as described above.

*Other Changes.* Other changes to the S&P Style Indices are made on an as-needed basis, following the guidelines of the relevant S&P U.S. Index. Changes in response to corporate actions and market developments can be made at any time.

*Corporate Actions and Other Adjustments.* Corporate actions and index changes are implemented in the same manner as for other S&P U.S. Indices, *provided* that any additional adjustments, when needed, are made in accordance with the table below. See “Indices—The S&P U.S. Indices” in this underlying supplement for additional information.

<b>Parent Index Action</b>	<b>Adjustment Made to the Relevant S&amp;P Style Index</b>	<b>Divisor Adjustment Required?</b>
<b>Constituent Change</b>	<p>If the index constituent being dropped is a member of an S&amp;P Style Index, it is removed from such index.</p> <p>The replacement stock will then be added to either the relevant S&amp;P Value Index or the corresponding S&amp;P Growth Index (or both) based on its growth/value rank, and S&amp;P Dow Jones will announce the percent of FMC of the replacement stock to be added to the relevant S&amp;P Value Index or the corresponding S&amp;P Growth Index (or both) via its index corporate events report. The percent of FMC of the replacement stock in each relevant S&amp;P Style Index is calculated using the Global Industry Classification Standard industry-level averages for stocks outside the S&amp;P Total Market Index, as of the prior rebalance, other than spin-offs, and such percentage will be based on old values for inter-index moves.</p>	Yes
<b>Share Changes between Quarterly Share Adjustments</b>	Share count follows the relevant S&P U.S. Index share count.	Yes
<b>Quarterly Share Changes</b>	Share count follows the relevant S&P U.S. Index share count. In addition, the new percent of FMC in the relevant S&P Value Index and the corresponding S&P Growth Index changes for all constituent stocks at the December rebalancing. These will be pre-announced in a manner similar to quarterly share changes.	Yes
<b>Spin-Off</b>	Index membership follows the relevant S&P U.S. Index. The “ <b>child stock</b> ” is assigned the same percent of FMC in each S&P Style Index as its “ <b>parent stock.</b> ”	No

### **Governance of the S&P Style Indices**

An index committee (the “**Index Committee**”) maintains the S&P Style Indices. All members of the Index Committee are full-time professional members of S&P Dow Jones’s staff. The Index Committee meets regularly. At each meeting, the Index Committee may review pending corporate actions that may

affect constituents of an S&P Style Index, statistics comparing the composition of the S&P Style Indices to the market, companies that are being considered as candidates for addition to an S&P Style Index and any significant market events. In addition, the Index Committee may revise index policy covering rules for selecting companies, treatment of dividends, share counts or other matters.

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## THE S&P U.S. INDICES

All information contained in this underlying supplement regarding the S&P 500® Index, the S&P MidCap 400® Index and the S&P SmallCap 600® Index (each, an “**S&P U.S. Index**” and collectively, the “**S&P U.S. Indices**”), including, without limitation, their make-up, method of calculation and changes in their components, has been derived from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by, S&P Dow Jones Indices LLC (“**S&P Dow Jones**”). The S&P U.S. Indices are calculated, maintained and published by S&P Dow Jones. S&P Dow Jones has no obligation to continue to publish, and may discontinue the publication of, any of the S&P U.S. Indices.

### The S&P 500® Index

The S&P 500® Index consists of stocks of 500 companies selected to provide a performance benchmark for the large market capitalization segment of the U.S. equity markets. The S&P 500® Index is reported by Bloomberg L.P. under the ticker symbol “SPX.”

### The S&P MidCap 400® Index

The S&P MidCap 400® Index consists of stocks of 400 companies selected to provide a performance benchmark for the mid-size market capitalization segment of the U.S. equity markets. The S&P MidCap 400® Index is reported by Bloomberg L.P. under the ticker symbol “MID.”

### The S&P SmallCap 600® Index

The S&P SmallCap 600® Index consists of stocks of 600 companies selected to provide a performance benchmark for the small market capitalization segment of the U.S. equity markets. The S&P SmallCap 600® Index is reported by Bloomberg L.P. under the ticker symbol “SML.”

### Composition of the S&P U.S. Indices

Additions to the S&P U.S. Indices are evaluated based on the following eligibility criteria:

- *Domicile.* The company must be a U.S.-domiciled company. S&P Dow Jones generally determines a company’s country of domicile based on the location of its incorporation and/or registration, operational headquarters and stock exchange listings (common listings only; excludes depository receipts, OTC and other similar securities). If all three principal factors point toward one country, then that country is generally considered the country of domicile. When the country of incorporation and/or registration is a domicile of convenience, only the location of the operational headquarters and stock exchange listings are considered. If any of these factors do not align, a company will generally be assigned to its country of incorporation, unless a broader analysis considering the following factors establishes a significant link to another country: geographic breakdown of assets and revenues by country, where applicable, ownership information (such as composition of, and/or geographic distribution of, its shareholder base), additional stock exchange listings, the functional and reporting currency, location of officers, directors and employees, location of annual company meetings, company history, investor perception and other factors deemed to be relevant by S&P Dow Jones’s U.S. index committee.
- *Security Filing Type.* The company issuing the security must satisfy the U.S. Securities Exchange Act of 1934’s periodic reporting obligations by filing certain required forms for domestic issuers, such as but not limited to Form 10-K annual reports, Form 10-Q quarterly reports and Form 8-K current reports.
- *Exchange Listing.* A listing on one of the following U.S. exchanges is required: New York Stock Exchange, NYSE Arca, NYSE American, Nasdaq Global Select Market, Nasdaq Global Market, Nasdaq Capital Market, Cboe BZX, Cboe BYX, Cboe EDGA or Cboe EDGX exchanges. Ineligible exchanges include the over-the counter markets including the Pink Open Market.

- *Organizational Structure and Share Type.* Eligible organizational structures and share types are corporations, including equity and mortgage real estate investment trusts (“**REITs**”), and common stock (*i.e.*, shares). Ineligible organizational structures and share types include, but are not limited to, business development companies, limited partnerships, master limited partnerships, limited liability companies, closed-end funds, exchange-traded funds, exchange-traded notes, royalty trusts, special purpose acquisition companies (“**SPACs**”), tracking stocks, preferred and convertible preferred stock, unit trusts, equity warrants, convertible bonds, investment trusts, rights and American depositary receipts.
- *Multiple Share Classes.* S&P Dow Jones includes all publicly listed multiple share class lines separately in float-adjusted market capitalization (“**FMC**”) weighted indices, subject to the eligibility requirements for each index. Index membership eligibility for a company with multiple share class lines is based on total market capitalization at the company level. Each publicly listed share class is evaluated separately to determine index inclusion, with the weight of each line reflecting only that line’s FMC, not the combined FMC of all company share class lines. Unlisted share class lines are not combined with any listed share class lines, but unlisted share class lines are included when calculating company total market capitalization (“**TMC**”). Multiple share class lines not currently in an S&P U.S. Index must satisfy the liquidity and FMC eligibility requirements (but not the market capitalization criteria, which is only considered at the company level). Any excluded listed secondary lines are reviewed annually in September for potential index inclusion. Multiple share class line deletions from an S&P U.S. Index are at the discretion of S&P Dow Jones’s U.S. index committee, and, as a result, a multiple share class line may continue to be included in an index even if the share class line subsequently fails to meet the addition criteria.
- *Market Capitalization.* The total company-level market capitalization should be within a specified range for the relevant S&P U.S. Index. These ranges are reviewed at the beginning of each calendar quarter and updated as needed to ensure they reflect current market conditions. A company meeting the total company-level market capitalization criteria is also required to have a security-level FMC that is at least 50% of the relevant S&P U.S. Index’s total company-level minimum market capitalization threshold.
- *IWF.* For each stock, an investable weight factor (“**IWF**”) is calculated, which is equal to the percentage of such stock’s shares that are freely available for trading in the public market out of total shares outstanding. A stock must have a minimum IWF of 0.1 as of the rebalancing effective date to be eligible for inclusion in an S&P U.S. Index.
- *Liquidity.* A float-adjusted liquidity ratio (“**FALR**”), defined as the annual dollar value traded *divided by* the FMC, is used to measure liquidity. Using composite pricing and all publicly reported U.S. consolidated volume, annual dollar value traded is defined as the average closing price *multiplied by* the historical volume over the 365 calendar days prior to the evaluation date. This is reduced to the available trading period for initial public offerings (“**IPOs**”), spin-offs or public companies considered to be U.S.-domiciled for index purposes that do not have 365 calendar days of trading history on a U.S. exchange. In these cases, the dollar value traded available as of the evaluation date is annualized. The price, shares outstanding and IWF as of the evaluation date are used to calculate the FMC. The evaluation date is the open of trading two business days prior to the announcement date. The stock should trade a minimum of 250,000 shares in each of the six months leading up to the evaluation date. The FALR must be greater than or equal to 0.75 at the time of addition to an S&P U.S. Index. Current index constituents have no minimum requirement.
- *Financial Viability.* The sum of the most recent four consecutive quarters’ Generally Accepted Accounting Principles (“**GAAP**”) earnings (net income excluding discontinued operations) should be positive as should the most recent quarter. For equity REITs, financial viability is based on GAAP earnings and/or funds from operations, if reported.
- *Treatment of IPOs.* IPOs should be traded on an eligible exchange for at least 12 months before being considered for addition to an S&P U.S. Index. For former SPACs, S&P Dow Jones considers the de-SPAC transaction to be an event equivalent to an IPO, and 12 months of trading

post the de-SPAC event are required before a former SPAC can be considered for inclusion in an S&P U.S. Index. Spin-offs or in-specie distributions from existing constituents are not required to have 12 months of trading prior to their inclusion in an S&P U.S. Index. Companies that migrate from an ineligible exchange, emerge from bankruptcy, are newly designated to be domiciled in the U.S. for index purposes by S&P Dow Jones or convert from an ineligible share or organizational type to an eligible type do not need to trade on an eligible U.S. exchange for 12 months before being considered for addition.

- *Sector Classification.* Sector balance, as measured by a comparison of each GICS® sector's weight in the applicable S&P U.S. Index with its weight in the S&P Total Market Index, in the relevant market capitalization range, is also considered in the selection of companies for the S&P U.S. Indices. The S&P Total Market Index is a float-adjusted market capitalization-weighted index designed to track the broad equity market, including large-, mid-, small- and micro-cap stocks.

Exceptions to the above criteria include:

- Non-constituents that acquire constituents of an S&P U.S. Index, but do not fully meet all of the eligibility criteria, may still be added to an S&P U.S. Index at the discretion of the S&P Dow Jones's U.S. index committee if the merger consideration includes the acquiring company issuing stock to target company shareholders, and the committee determines that the addition could mitigate turnover and enhance the representativeness of the relevant S&P U.S. Index as a market benchmark.
- Current constituents of an S&P U.S. Index can be migrated from one S&P U.S. Index to another provided they meet the total company-level market capitalization eligibility criteria for the new index. Migrations from an S&P U.S. Index to another do not need to meet the financial viability, liquidity or 50% of the respective index's total company-level minimum market capitalization threshold criteria.
- Companies that are spun-off from current index constituents do not need to meet the outside addition criteria, but they should be considered U.S. domiciled for index purposes. At the discretion of the S&P Dow Jones's U.S. index committee, a spin-off company may be retained in the parent stock's index if the committee determines it has a TMC representative of the relevant S&P U.S. Index.

### **Calculation of the S&P U.S. Indices**

The S&P U.S. Indices are FMC-weighted indices. On any given day, the index value of each S&P U.S. Index is the total FMC of that S&P U.S. Index's constituents *divided* by its divisor. The FMC reflects the price of each stock in the relevant S&P U.S. Index *multiplied* by the number of shares used in the index value calculation.

*Float Adjustment.* Float adjustment means that the number of shares outstanding is reduced to exclude shares that are held by other publicly traded companies, government agencies or certain types of strategic shareholders from the calculation of the index value because such shares are not available to investors. The goal of float adjustment is to adjust each company's total shares outstanding for long-term strategic shareholders, who often have interests such as maintaining control rather than securing the shorter-term economic fortunes of the company. Generally, these long-term strategic shareholders include, but are not limited to, officers and directors, private equity, venture capital and special equity firms, asset managers and insurance companies with direct board of director representation, other publicly traded companies that hold shares, holders of restricted shares, company-sponsored employee share plans/trusts, defined contribution plans/savings and investment plans, foundations or family trusts associated with the company, government entities at all levels (other than government retirement/pension funds), sovereign wealth funds and any individual person who controls a 5% or greater stake in a company as reported in regulatory filings. Restricted shares are generally not included in total shares outstanding except for shares held as part of a lock-up agreement. Shares that are not considered

outstanding are also not included in the available float. These generally include treasury stock, stock options, equity participation units, warrants, preferred stock, convertible stock and rights.

For each component, S&P Dow Jones calculates an IWF, which represents the portion of the total shares outstanding that are considered part of the public float for purposes of the relevant S&P U.S. Index calculation.

*Divisor.* Continuity in index values of each S&P U.S. Index following the implementation of corporate actions, index rebalancing events or other non-market driven actions is maintained by adjusting its divisor. Any change to the stocks in the relevant S&P U.S. Index that alters the total market value of the index while holding stock prices constant will require a divisor adjustment. These changes include additions to and deletions from the relevant S&P U.S. Index, rights issues, share buybacks and issuances and non-zero price spin-offs. The value of each S&P U.S. Index's divisor over time is, in effect, a chronological summary of all changes affecting the base capital of that S&P U.S. Index. The divisor of each S&P U.S. Index is adjusted such that the index value of that S&P U.S. Index at an instant just prior to a change in base capital equals the index value of that S&P U.S. Index at an instant immediately following that change.

### **Maintenance of the S&P U.S. Indices**

S&P Dow Jones believes turnover in index membership should be avoided when possible. At times a stock included in an S&P U.S. Index may appear to temporarily violate one or more of the addition criteria. However, the addition criteria are for addition to an S&P U.S. Index, not for continued membership. As a result, an S&P U.S. Index constituent that appears to violate criteria for addition to that index is not deleted unless ongoing conditions warrant an index change. When a stock is removed from an S&P U.S. Index, S&P Dow Jones explains the basis for the removal.

Changes to index composition are made on an as-needed basis. There is no scheduled reconstitution. Rather, changes in response to corporate actions and market developments can be made at any time. Index additions and deletions are typically announced with at least three business days' advance notice. Less than three business days' notice may be given at the discretion of the S&P Dow Jones's U.S. index committee.

*Deletion from an S&P U.S. Index.* Deletions from an S&P U.S. Index occur as follows:

- A company is deleted from an S&P U.S. Index if it is involved in a merger, acquisition or significant restructuring such that it no longer meets the eligibility criteria. A company delisted as a result of a merger, acquisition or other corporate action is removed at a time announced by S&P Dow Jones, normally at the close of the last day of trading or expiration of a tender offer. Constituents that are halted from trading may be kept in the applicable S&P U.S. Index until trading resumes, at the discretion of S&P Dow Jones's U.S. index committee. If a stock is moved to the pink sheets or the bulletin board, the stock is removed.
- A company that substantially violates one or more of the eligibility criteria may be deleted at the S&P Dow Jones's U.S. index committee's discretion.

Any company that is removed from an S&P U.S. Index (including discretionary and bankruptcy/exchange delistings) must wait a minimum of one year from its removal date before being screened for the eligibility criteria.

*Share and IWF Updates.* Share/IWF changes are implemented either annually, quarterly or on an accelerated schedule following the relevant event depending on the nature of the change as explained below.

- *Mandatory Action.* Certain mandatory actions, such as M&A driven share/IWF changes, stock splits and mandatory distributions, are not subject to a minimum threshold for implementation. In order to minimize index turnover, any IWF changes resulting from such mandatory actions are implemented based on the pre-event IWFs of the securities involved.

- *Accelerated Implementation Rule.* Material share/IWF changes resulting from certain non-mandatory corporate actions follow an accelerated implementation rule with sufficient advance notification. The accelerated implementation rule is intended to reduce turnover intra-quarter while also enhancing opportunities for index trackers to take advantage of non-mandatory material liquidity events.
- *Quarterly Review.* Non-material share/IWF changes are reviewed quarterly, effective after the close of the third Friday of the third month in each calendar quarter and as per below. At each quarterly review, shares outstanding are updated to the latest publicly available filings as of the rebalancing reference date. At each quarterly review, IWF changes are made only if there is a share change of at least 5% of total current shares outstanding and if the adjusted IWF absolute change is at least 5, with IWF adjustments limited to the extent necessary to help reflect the corresponding share change.
- *Annual Review.* Other than the situations described above, IWFs changes are only made at the annual IWF review based on the most recently available data filed with various regulators and exchanges.

*Share/IWF Reference Date and Freeze Period.* A reference date, after the market close five weeks prior to the third Friday in March, June, September and December, is the cutoff for publicly available information used for quarterly shares outstanding and IWF changes. All shares outstanding and ownership information contained in public filings and/or official sources dated on or before the reference date are included in that quarter's update. In addition, there is a freeze period on a quarterly basis for any changes that result from the accelerated implementation rule. The freeze period begins after the market close on the Tuesday prior to the second Friday of each rebalancing month (*i.e.*, March, June, September and December) and ends after the market close on the third Friday of the rebalancing month.

Pro-forma files for FMC indices are generally released after the market close on the first Friday, two weeks prior to the rebalancing effective date. For illustration purposes, if rebalancing pro-forma files are *scheduled* to be released on Friday, March 5, the share/IWF freeze period will begin after the close of trading on Tuesday, March 9, and will end after the close of trading the following Friday, March 19 (*i.e.*, the third Friday of the rebalancing month).

During the share/IWF freeze period, shares and IWFs are not changed, and the accelerated implementation rule is suspended, except for mandatory corporate action events (such as merger activity, stock splits and rights offerings). The suspension includes all changes that qualify for accelerated implementation and would typically be announced or effective during the share/IWF freeze period. At the end of the freeze period, all suspended changes will be announced on the third Friday of the rebalancing month and implemented five business days after the quarterly rebalancing effective date.

Companies that are the target of cash M&A events, and if publicly available guidance indicates the event is expected to close by quarter end, may have their share count frozen at their current level for rebalancing purposes.

*Other Adjustments.* In cases where there is no achievable market price for a stock being deleted, it can be removed at a zero or minimal price at the S&P Dow Jones's U.S. index committee's discretion.

*Corporate Action Adjustments.* The table below summarizes the treatment of certain corporate actions.

<b>Corporate Action</b>	<b>Treatment</b>
<b>Company addition/deletion</b>	<p><b>Addition</b> Companies are added at the float market capitalization weight. The net change to the market capitalization of the relevant S&amp;P U.S. Index causes a divisor adjustment.</p> <p><b>Deletion</b></p>

<b>Corporate Action</b>	<b>Treatment</b>
	The weights of all stocks in the relevant S&P U.S. Index will proportionally change. Relative weights will stay the same. The index divisor will change due to the net change in the market capitalization of that S&P U.S. Index.
<b>Change in shares outstanding</b>	Increasing (decreasing) the shares outstanding increases (decreases) the market capitalization of the relevant S&P U.S. Index. The change to the market capitalization of that S&P U.S. Index causes a divisor adjustment.
<b>Split/reverse split</b>	Shares outstanding are adjusted by the split ratio. Stock price is adjusted by the split ratio. There is no change to the market capitalization of the relevant S&P U.S. Index and no divisor adjustment.
<b>Spin-off</b>	<p>Generally, the spin-off is added to the relevant S&amp;P U.S. Index on the ex-date at a price of zero. The spin-off index shares are based on the spin-off ratio. On the ex-date, the spin-off will have the same attributes and capping adjustment factor as its parent company and will remain in that S&amp;P U.S. Index for at least one trading day. As a result, there will be no change to the index divisor on the ex-date.</p> <p>However, if the spin-off is ineligible for continued inclusion, it will be removed after the ex-date. The weight of the spin-off being deleted is reinvested across all the index components proportionally such that the relative weights of all index components are unchanged. The net change in the market capitalization of the relevant S&amp;P U.S. Index will cause a divisor change.</p>
<b>Change in IWF</b>	Increasing (decreasing) the IWF increases (decreases) the market capitalization of the relevant S&P U.S. Index. A net change to the market capitalization of that S&P U.S. Index causes a divisor adjustment.
<b>Ordinary dividend</b>	When a company pays an ordinary cash dividend, the relevant S&P U.S. Index does not make any adjustments to the price or shares of the stock. As a result, there are no divisor adjustments to that S&P U.S. Index.
<b>Special dividend</b>	The stock price is adjusted by the amount of the dividend. The net change to the market capitalization of the relevant S&P U.S. Index causes a divisor adjustment.
<b>Rights offering</b>	All rights offerings that are in the money on the ex-date are applied under the assumption that the rights are fully subscribed. The stock price is adjusted by the value of the rights and the shares outstanding are increased by the rights ratio. The net change in the market capitalization of the relevant S&P U.S. Index causes a divisor adjustment.

#### **Governance of the S&P U.S. Indices**

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companies that are being considered as candidates for addition to an S&P U.S. Index and any significant market events. In addition, the index committee may revise index policies.

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## THE SOLACTIVE US MAG 7 INDEX PR

All information contained in this underlying supplement regarding the Solactive US Mag 7 Index PR (the “**MAG Index**”) has been derived from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by, Solactive AG (“**Solactive**”). The MAG Index is owned, calculated, maintained and published by Solactive. Solactive does not have any obligation to continue to publish, and may discontinue publication of, the MAG Index. Solactive began calculating the MAG Index on a live basis on March 21, 2024.

The MAG Index tracks the price returns of a fixed basket of equity securities issued by seven technology companies (the “Index Components”) as set forth in the table below, rebalanced to equal weights semiannually. Subject to the occurrence of certain corporate actions, the companies represented in the MAG Index will not change over time.

The MAG Index is reported by Bloomberg L.P. (“Bloomberg”) under the ticker symbol “MAG.”

### Index Components

All information contained herein on the Index Components and on their respective issuers is derived from publicly available sources, without independent verification. Each Index Component is registered under the Securities Exchange Act of 1934, as amended, which we refer to as the Exchange Act, and is listed on The Nasdaq Stock Market. Information provided to or filed with the SEC by a component security issuer pursuant to the Exchange Act can be located by reference to the SEC file number provided in the table below, and can be accessed through [www.sec.gov](http://www.sec.gov). We do not make any representation that these publicly available documents are accurate or complete.

Index Component	Bloomberg Ticker Symbol	SEC File Number
Class A common stock of Alphabet Inc., par value \$0.001 per share	GOOGL	001-37580
Common stock of Amazon.com, Inc., par value \$0.01 per share	AMZN	000-22513
Common stock of Apple Inc., par value \$0.00001 per share	AAPL	001-36743
Class A common stock of Meta Platforms, Inc., par value \$0.000006 per share	META	001-35551
Common stock of Microsoft Corporation, par value \$0.00000625 per share	MSFT	001-37845
Common stock of NVIDIA Corporation, par value \$0.001 per share	NVDA	000-23985
Common stock of Tesla, Inc., par value \$0.001 per share	TSLA	001-34756

According to publicly available filings of the relevant component security issuer with the SEC:

- Alphabet Inc. is a collection of businesses, the largest of which is Google, which (i) offers products and platforms through which it generates revenues primarily by delivering both performance advertising and brand advertising and (ii) provides cloud services to businesses.
- Amazon.com, Inc. serves consumers through its online and physical stores; manufactures and sells electronic devices; develops and produces media content; offers subscription services, such as Amazon Prime; offers programs that enable sellers to sell their products in its stores and fulfill orders using its services; offers developers and enterprises a set of on-demand technology services, including compute, storage, database, analytics, artificial intelligence and machine learning and other services; offers programs that allow authors, independent publishers, musicians, filmmakers, Twitch streamers, skill and app developers and others to publish and sell

content; and provides advertising services to sellers, vendors, publishers, authors and others, through programs such as sponsored ads, display and video advertising.

- Apple Inc. designs, manufactures and markets smartphones, personal computers, tablets, wearables and accessories and sells a variety of related services.
- Meta Platforms, Inc. builds products that enable people to connect and share through mobile devices, personal computers, virtual reality headsets and artificial intelligence glasses.
- Microsoft Corporation is a technology company that develops and supports software, services, devices and solutions.
- NVIDIA is a data center scale artificial intelligence infrastructure company whose technology stack includes the CUDA development platform that runs on all of its graphics processing units, as well as domain-specific software libraries, frameworks, algorithms, software development kits and application programming interfaces and whose data-center-scale offerings feature co-design where the infrastructure's chips, networking, systems, software and algorithms are holistically architected and optimized for performance and scale.
- Tesla, Inc. designs, develops, manufactures, sells and leases electric vehicles and energy generation and storage systems and offers services related to its products.

### **Index Rebalancing**

The MAG Index is rebalanced on the first weekday (Monday through Friday) of each May and November or, if that day is not a trading day, on the immediately following trading day (each, a "Rebalancing Date"). On each Rebalancing Date, an equal weight is applied to each Index Component by implementing a number of shares of each Index Component to be included in the MAG Index as determined on the fifth weekday immediately preceding the scheduled Rebalancing Date. For purposes of the MAG Index, a "trading day" means a day on which the relevant exchange for each Index Component is open for trading (or a day that would have been such a day if a market disruption had not occurred), excluding days on which trading may cease prior to the exchange's scheduled closing time and days on which the exchange is open for a scheduled shortened period, as determined by Solactive.

In the event of a spin-off, the spun-off security will be added to the MAG Index on the effective date of the spin-off and assigned a weight relative to the other Index Components. The spun-off entity will remain in the MAG Index until the next Rebalancing Date, when it will be removed from the MAG Index.

### **Index Calculation**

The closing level of the MAG Index is calculated each weekday on which the New York Stock Exchange is open (each, a "Calculation Day") based on the closing prices for the Index Components, the number of shares of the Index Component included in the MAG Index as of the immediately preceding Rebalancing Date and the index divisor. Each Index Component's closing price is its final regular-hours trading price published by the relevant exchange and determined in accordance with that exchange's regulations or, if that relevant exchange has not published the closing price in accordance with its rules, the last trading price will be used.

### **Index Maintenance**

As part of the maintenance of the MAG Index, Solactive will take into account various events — also referred to as "corporate actions" — that result in an adjustment to the MAG Index between regularly scheduled Rebalancing Dates. These events will have a material impact on the price, weighting or overall integrity of Index Components. Adjustments related to these corporate actions are implemented by Solactive from the cum-day to the ex-day of the corporate action, so that the adjustment to the MAG Index coincides with the occurrence of the price effect of the relevant corporate action.

Solactive considers following, but not conclusive, list of corporate actions as relevant for maintenance of the MAG Index:

- special cash distributions (e.g., the payment of a special dividend);
- stock distributions (e.g., the payment of a dividend in form of additional shares);
- stock distributions of another company (e.g., the payment of a dividend in form of additional shares of another company, such as a subsidiary);
- share splits (a company's present shares are divided and therefore multiplied by a given factor);
- reverse splits (a company's present shares are effectively merged);
- capital increases (e.g., a company issues additional shares);
- share repurchases (e.g., a company offers its shareholders the option to sell their shares to the company at a fixed price);
- spin-offs (e.g., the company splits its business activities into two or more entities and distributes new equity shares in the created entities to the shareholders of the former entity);
- mergers and acquisitions (e.g., a transaction in which the ownership of a company (or other business organizations) is transferred or consolidated with other entities; a fusion of two or more separate companies into a singular corporate entity);
- delistings (e.g., a company's shares are no longer publicly traded on a stock exchange); and
- nationalization of a company (e.g., effective control of the legal entity comprising the company is taken over by a state actor).

### **Oversight Committee**

A committee composed of staff from Solactive and its subsidiaries (the "Oversight Committee") is responsible for decisions regarding any amendments to the rules that govern the MAG Index. Any such amendment must be submitted to the Oversight Committee for prior approval.

### **Disclaimers**

JPMorgan Chase & Co. or its affiliate has entered into an agreement with Solactive providing it and certain of its affiliates or subsidiaries, including us, with a non-exclusive license and, for a fee, with the right to use the MAG Index, which is owned and published by Solactive, in connection with certain products, including the notes.

**The notes are not sponsored, promoted, sold or supported in any other manner by Solactive nor does Solactive offer any express or implicit guarantee or assurance either with regard to the results of using the MAG Index and/or MAG Index trademark or the MAG Index level at any time or in any other respect. The MAG Index is calculated and published by Solactive. Solactive uses its best efforts to ensure that the MAG Index is calculated correctly. Irrespective of its obligations towards JPMorgan Chase & Co. or any of its affiliates, Solactive has no obligation to point out errors in the MAG Index to third parties including but not limited to investors and/or financial intermediaries of the notes. Neither publication of the MAG Index by Solactive nor the licensing of the MAG Index or MAG Index trademark for the purpose of use in connection with the notes constitutes a recommendation by Solactive to invest capital in the notes nor does it in any way represent an assurance or opinion of Solactive with regard to any investment in the notes.**

## THE STOXX BENCHMARK INDICES

All information contained in this underlying supplement regarding the STOXX® Europe Total Market Index, the STOXX® Europe 600 Index, the EURO STOXX® Index, the STOXX® Europe 600 Supersector indices, the EURO STOXX® Supersector indices, the EURO STOXX 50® Index and the EURO STOXX® Mid Index (each, a “**STOXX Benchmark Index**” and collectively, the “**STOXX Benchmark Indices**”), including, without limitation, their make-up, method of calculation and changes in their components, has been derived from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by, STOXX Limited, a wholly owned subsidiary of Deutsche Börse AG. The STOXX Benchmark Indices are calculated, maintained and published by STOXX Limited. STOXX Limited has no obligation to continue to publish, and may discontinue the publication of, any of the STOXX Benchmark Indices.

### The STOXX® Europe Total Market Index

The STOXX® Europe Total Market Index is a free-float market capitalization-weighted index composed of at least 95% of the free-float market capitalization traded on the major exchanges of 17 European countries: Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, Luxembourg, the Netherlands, Norway, Poland, Portugal, Spain, Sweden, Switzerland and the United Kingdom. The euro price return version of the STOXX® Europe Total Market Index is reported by Bloomberg L.P. under the ticker symbol “BKXP.”

Only common stocks and equities with similar characteristics from financial markets that provide reliable real-time, historical component and currency pricing, and reference and corporate actions data are eligible for inclusion in the STOXX® Europe Total Market Index. In addition, only listed companies on a regulated market on a major exchange as determined by STOXX are eligible to be included in the STOXX® Europe Total Market Index. Investment instruments (Industry Classification Benchmark: 30204000 or 30205000) and companies that were recently removed from the STOXX® Europe Total Market Index due to mergers and acquisition are not eligible for inclusion in the STOXX® Europe Total Market Index.

Each stock is uniquely assigned to a specific country and listing within the STOXX investable universe. The country classification and listing are generally based on the country of incorporation and the primary listing of the stock. American and other depositary receipts (e.g., ADRs/GDRs) are assigned to the same country as the stock on which the receipt is issued. Each country is assigned to one or more regions. The STOXX® Europe Total Market Index is composed of stocks assigned to countries within the Europe region.

All stocks in the investable stock universe of each country included in STOXX® Europe Total Market Index are ranked in terms of their free-float market capitalization at the cut-off date to produce the review list. The largest companies in the investable universe of each country with a cumulative free-float market capitalization up to and including 93% of the investible universe of that country, qualify for inclusion in the STOXX® Europe Total Market Index. The stocks covering the next 2% of cumulative free-float market capitalization are selected among the largest remaining current components of the STOXX® Europe Total Market Index representing the portion of capitalization above 93% and up to and including 99%. If the country coverage is still below the defined threshold, then the largest remaining stocks are selected until the country coverage is reached.

No weighting cap factor (see “— STOXX Benchmark Index Calculation” below) is applied in calculating the STOXX® Europe Total Market Index.

### The STOXX® Europe 600 Index

The STOXX® Europe 600 Index is a free-float market capitalization-weighted index composed of 600 of the largest stocks in terms of free-float market capitalization traded on the major exchanges of 17 European countries: Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, Luxembourg, the Netherlands, Norway, Poland, Portugal, Spain, Sweden, Switzerland and the United Kingdom. At any given time, some eligible countries may not be represented in the STOXX® Europe 600 Index. The euro

price return version of the STOXX® Europe 600 Index is reported by Bloomberg L.P. under the ticker symbol “SXXP.”

The selection list for the STOXX® Europe 600 Index is composed of the most liquid stock of each component of the STOXX® Europe Total Market Index that has a minimum liquidity of greater than one million EUR measured over 3-month average daily trading value. From the selection list, the largest 550 stocks qualify for inclusion in the STOXX® Europe 600 Index. The remaining 50 stocks are selected from the largest remaining current components ranked between 551 and 750. If the number of stocks selected is still below 600, the largest remaining stocks are selected until there are enough stocks.

The weighting cap factor (see “— STOXX Benchmark Index Calculation” below) limits the weight of each component stock within the STOXX® Europe 600 Index to a maximum of 20% at the time of each review.

### **The EURO STOXX® Index**

The EURO STOXX® Index is a free-float market capitalization-weighted index composed of the largest stocks in terms of free-float market capitalization traded on the major exchanges of 11 Eurozone countries: Austria, Belgium, Finland, France, Germany, Ireland, Italy, Luxembourg, the Netherlands, Portugal and Spain. At any given time, some eligible countries may not be represented in the EURO STOXX® Index. The euro price return version of the EURO STOXX® Index is reported by Bloomberg L.P. under the ticker symbol “SXXE.”

The EURO STOXX® Index is composed of all of the components of the STOXX® Europe 600 Index that are traded in euros and assigned to countries in the Eurozone.

The weighting cap factor (see “— STOXX Benchmark Index Calculation” below) limits the weight of each component stock within the EURO STOXX® Index to a maximum of 20% at the time of each review.

### **The EURO STOXX® Mid Index**

The EURO STOXX® Mid Index is a free-float market capitalization-weighted index composed of stocks of mid-size capitalization companies traded on the major exchanges of 11 Eurozone countries: Austria, Belgium, Finland, France, Germany, Ireland, Italy, Luxembourg, the Netherlands, Portugal and Spain. At any given time, some eligible countries may not be represented in the EURO STOXX® Mid Index. The euro price return version of the EURO STOXX® Index is reported by Bloomberg L.P. under the ticker symbol “MXCE.”

The EURO STOXX® Mid Index consists of the mid-size capitalization stocks included in the STOXX® Europe Mid 200 Index that are traded in euros and assigned to countries in Eurozone. The STOXX® Europe Mid 200 Index derives from the STOXX® Europe 600 Index.

The selection list for the EURO STOXX® Mid Index is composed of the components of the STOXX® Europe 600 Index that are traded in euros and assigned to countries in the Eurozone. All components of the STOXX® Europe 600 Index are ranked by free-float market capitalization. The largest 58⅓% stocks on the selection list qualify for selection. Out of these 58⅓% stocks, 33⅓% are already selected for the STOXX® Europe Large 200 Index, thus only the remaining 25% are selected for the STOXX® Europe Mid 200 Index. The target coverage of the STOXX® Europe Mid 200 Index is the medium ⅓ (33⅓%) of the companies from the STOXX® Europe 600 Index. To achieve the full coverage of the STOXX® Europe Mid 200 Index, the missing 8⅓% stocks are selected from the largest remaining current components of the STOXX® Europe Large 200 Index and the STOXX® Europe Mid 200 Index ranked between 58⅓% and 75%. If the number of stocks selected is still below 33⅓%, the largest remaining stocks from the selection list are selected. To constitute the EURO STOXX® Mid Index, only the stocks with countries eligible for the Eurozone are chosen from the STOXX® Europe Mid 200 Index.

The weighting cap factor (see “— STOXX Benchmark Index Calculation” below) limits the weight of each component stock within the EURO STOXX® Mid Index to a maximum of 20% at the time of each review.

## **The STOXX® Europe 600 Supersector Indices and the EURO STOXX® Supersector Indices**

The STOXX® Europe 600 Index and the EURO STOXX® Index are each divided into 20 supersector indices according to the Industry Classification Benchmark (“**ICB**”), an international system for categorizing companies that is maintained by FTSE Russell. Each supersector index includes the components of its parent index that have been issued by companies within the relevant ICB supersector. The ICB supersectors are: automobiles and parts; banks; basic resources; chemicals; construction and materials; consumer products and services; energy; financial services; food, beverage and tobacco; health care; industrial goods and services; insurance; media; personal care, drug and grocery stores; real estate; retailers; technology; telecommunications; travel and leisure; and utilities.

The STOXX® Europe 600 Banks Index is one of 20 STOXX® Europe 600 Supersector indices and includes stocks composing the STOXX® Europe 600 Index that have been issued by companies in the ICB banks supersector. The banks supersector tracks companies providing a broad range of banking services, including retail banking, loans and money transmissions. The euro price return version of the STOXX® Europe 600 Banks Index is reported by Bloomberg L.P. under the ticker symbol “SX7P.”

The EURO STOXX® Banks Index is one of 20 EURO STOXX® Supersector indices and includes stocks composing the EURO STOXX® Index that have been issued by companies in the ICB banks supersector. The banks supersector tracks companies providing a broad range of banking services, including retail banking, loans and money transmissions. The euro price return version of the EURO STOXX® Banks Index is reported by Bloomberg L.P. under the ticker symbol “SX7E.”

With respect to each STOXX® Europe 600 Supersector index, the weighting cap factor (see “— STOXX Benchmark Index Calculation” below) limits the weight of the highest weighted component stock to a maximum of 30% at the time of each review and limits the weight of the second highest weighted component stock to a maximum of 15% at the time of each review. An intra-quarter capping will be triggered if the largest company exceeds 35% or the second largest company exceeds 20%. No weighting cap factor is applied in calculating the EURO STOXX® Supersector indices.

### **The EURO STOXX 50® Index**

The EURO STOXX 50® Index is a free-float market capitalization-weighted index composed of 50 of the largest stocks in terms of free-float market capitalization traded on the major exchanges of 11 Eurozone countries: Austria, Belgium, Finland, France, Germany, Ireland, Italy, Luxembourg, the Netherlands, Portugal and Spain. At any given time, some eligible countries may not be represented in the EURO STOXX 50® Index. The euro price return version of the EURO STOXX 50® Index is reported by Bloomberg L.P. under the ticker symbol “SX5E.”

The selection list for the EURO STOXX® 50 Index is composed of the components of the EURO STOXX® Index. For each of the 20 EURO STOXX® Supersector indices, the stocks are ranked in terms of free-float market capitalization. The largest stocks are added to the selection list until the coverage is close to, but less than, 60% of the free-float market capitalization of each of the 20 EURO STOXX® Supersector indices. If the next highest-ranked brings the coverage closer to 60% in absolute terms, then it is also added to the selection list. All current EURO STOXX® 50 Index stocks are then added to the selection list. All the stocks on the selection list are ranked in terms of free-float market capitalization. The largest 40 stocks on the selection list are selected for inclusion in the EURO STOXX® 50 Index; the remaining 10 stocks are selected from the largest remaining current stocks ranked between 41 and 60. If the number of stocks selected is still below 50, then the largest remaining stocks are selected until there are 50 stocks.

The weighting cap factor (see “— STOXX Benchmark Index Calculation” below) limits the weight of each component stock within the EURO STOXX® 50 Index to a maximum of 10% at the time of each review.

### **STOXX Benchmark Index Maintenance**

The composition of each of the STOXX® Europe Total Market Index, the STOXX® Europe 600 Index, the EURO STOXX® Index, EURO STOXX® Mid Index, the STOXX® Europe 600 Supersector Indices and

the EURO STOXX® Supersector Indices is reviewed quarterly in March, June, September and December. For the STOXX® Europe Total Market Index, the review cut-off date is the last trading day of the month following the last quarterly index review. For the remaining foregoing STOXX Benchmark Indices, the review cut-off date is the last trading day of the month preceding the review month.

The composition of the EURO STOXX 50® Index is reviewed annually in September. The review cut-off date is the last trading day of August. The composition of the EURO STOXX 50® Index is also reviewed monthly and components that rank 75 or below of the current review month and previous review month are replaced and non-component stocks that rank 25 or above are added.

In addition, changes to country classification are effective as of the index review in the third quarter each year. At that time, the relevant STOXX Benchmark Index is adjusted accordingly to remain consistent with its country membership rules by deleting the company where necessary.

The STOXX Benchmark Indices are also reviewed on an ongoing basis. Corporate actions (including initial public offerings, mergers and takeovers, spin-offs, delistings, bankruptcy, and price and share adjustments) that affect a STOXX Benchmark Index composition are immediately reviewed. Any changes are announced, implemented and effective in line with the type of corporate action and the magnitude of the effect.

With respect to the STOXX® Europe Total Market Index, removed companies are not replaced. With respect to the STOXX® Europe 600 Index, the EURO STOXX® Index, the EURO STOXX® Mid Index, the STOXX® Europe 600 Supersector Indices, the EURO STOXX® Supersector Indices and the EURO STOXX 50® Index, to maintain the number of components constant, a removed company is replaced by the highest-ranked non-component on the relevant selection list. The selection list is updated on a monthly basis according to the review component selection process.

The free float factor for each component stock used to calculate each STOXX Benchmark Index is reviewed, calculated and implemented on a quarterly basis and is fixed until the next quarterly review.

### **STOXX Benchmark Index Calculation**

Each STOXX Benchmark Index is calculated with the “**Laspeyres formula**,” which measures the aggregate price changes in the component stocks against a fixed base quantity weight. The formula for calculating the value of a STOXX Benchmark Index can be expressed as follows:

$$\text{Index} = \frac{\text{Free-float market capitalization of the relevant STOXX Benchmark Index}}{\text{divisor}}$$

The “**free-float market capitalization of the relevant STOXX Benchmark Index**” is equal to the sum of the products, for each component stock, of the price, number of shares, free float factor, weighting cap factor and, if applicable, the exchange rate from the local currency into the index currency of the relevant STOXX Benchmark Index as of the time that STOXX Benchmark Index is being calculated.

The free float factor of each component stock is intended to reduce the number of shares to the actual amount available on the market. All fractions of the total number of shares that are larger than or equal to 5% and whose holding is of a long-term nature are excluded from the calculation of the STOXX Benchmark Indices, including: cross-ownership (stock owned either by the company itself, in the form of treasury shares, or owned by other companies); government ownership (stock owned by either governments or their agencies); private ownership (stock owned by either individuals or families); and restricted shares that cannot be traded during a certain period or have a foreign ownership restriction. Block ownership is not applied for holdings of custodian nominees, trustee companies, mutual funds, investment companies with short-term investment strategies, pension funds and similar entities.

Each STOXX Benchmark Index is also subject to a divisor, which is adjusted to maintain the continuity of the values of that STOXX Benchmark Index despite changes due to corporate actions. Changes in weights due to corporate actions are distributed proportionally across all stock components of

the relevant STOXX Benchmark Index. The following is a summary of the adjustments to any component stock of a STOXX Benchmark Index made for corporate actions and the effect of such adjustment on the divisor of that STOXX Benchmark Index, where shareholders of the component stock will receive “B” number of shares for every “A” share held (where applicable). All corporate actions and dividends are implemented at the effective date (ex-date).

<p><b>(1) Special cash dividend:</b></p> <p>Cash distributions that are outside the scope of the regular dividend policy or that the company defines as an extraordinary distribution</p> <p>New adjusted price = closing price on the day before the effective date – dividend announced by the company × (1 – withholding tax if applicable)</p> <p>Divisor: decreases</p>	
<p><b>(2) Split and reverse split:</b></p> <p>New adjusted price = closing price on the day before the effective date × A / B</p> <p>New adjusted number of shares = number of shares on the day before the effective date × B / A</p> <p>Divisor: unchanged</p>	
<p><b>(3) Rights offering (standard rights issue):</b></p> <p>If the subscription price is not available or if the subscription price is equal to or greater than the closing price on the day before the effective date, then no adjustment is made.</p> <p>If the subscription price is available as a price range and not as a fixed price, the price and share adjustment is performed only if both lower and upper range are in the money. The average value between lower and upper range will be used as a subscription price.</p> <p>New adjusted price = (closing price on the day before the effective date × A + subscription price × B) / (A + B)</p> <p>New adjusted number of shares = number of shares on the day before the effective date × (A + B) / A</p> <p>Divisor: increases</p>	
<p><b>(4) Rights offerings (highly dilutive rights issue):</b></p> <p>If the share ratio is greater than or equal to 200% (<math>B / A \geq 2</math>), a rights offering is considered to be a highly dilutive rights issue (“HDRI”).</p>	
<p><i>Scenario 1: If a HDRI is fully underwritten:</i></p> <p>it will be implemented as a stand rights issue as described above.</p> <p>Divisor: increases</p>	<p><i>Scenario 2: Where a HDRI is not fully underwritten and the rights are tradable on the effective date on the same eligible stock exchange as the parent company:</i></p> <p>(a) the rights will be included into the indices with a theoretical price on the effective date with the same parameters as the parent company;</p> <p>Divisor: unchanged on effective date.</p> <p>(b) the rights will be removed at the close of the day they start to trade based on its closing price;</p> <p>Divisor: decreases after deletion of rights</p> <p>(c) if the rights issue results into listing of new shares and satisfy the two-day notice period criteria relating to free float factors and share adjustments under STOXX methodology, then the number of shares will be increased after the new shares have been listed.</p>

	Divisor: increases on the day of share increase
<p><i>Scenario 3: Where a HDRI is not fully underwritten and the rights are not tradable on the effective date or not tradeable on the effective date on the same eligible stock exchange as the parent company:</i></p> <p>(a) the rights will be included into the indices with a theoretical price on the effective date with the same parameters as the parent company; Divisor: unchanged on effective date</p> <p>(b) the rights will be removed on the effective date at close, using a price of 0.0000001 in local currency; Divisor: unchanged</p> <p>(c) if the rights issue results into listing of new shares and satisfy the two-day notice period criteria relating to free float factors and share adjustments under STOXX methodology, then the number of shares will be increased after the new shares have been listed. Divisor: increases on the day of the share increase</p>	
<p><b>(5) Stock dividend (ordinary):</b> New adjusted price = closing price on the day before the effective date <math>\times A / (A + B)</math> New adjusted number of shares = number on shares of the day before the effective date <math>\times (A + B) / A</math> Divisor: unchanged</p>	<p><b>(6) Stock dividend from treasury stock:</b> Adjusted only if treated as special cash dividends. New adjusted price = closing price on the day before the effective date – closing price on the day before the effective date <math>\times B / (A + B)</math> Divisor: decreases</p>
<p><b>(7) Stock dividend from redeemable shares:</b> Adjusted only if treated as special cash dividend. In such a case, redeemable shares are considered as a separated share line with a fixed price and ordinary shares that are self-tendered on the same effective date. New adjusted price = closing price on the day before the effective date – closing price on the day before the effective date <math>\times B / (A + B)</math> Divisor: decreases</p>	<p><b>(8) Stock dividend of another company:</b> New adjusted price = (closing price on the day before the effective date <math>\times A</math> – price of other company <math>\times B \times (1 - \text{withholding tax if applicable})</math>) / A Divisor: decreases</p>
<p><b>(9) Return of capital and share consolidation:</b> The event will be applied as a combination of cash/special dividend together with a reverse split. If the return of capital is considered as regular cash dividend, then the treatment under “Split and Reverse Split” above applies. If the return of capital is considered as special cash dividend, then the treatment under “Special Cash Dividend” and “Split and Reverse Split” above apply accordingly. New adjusted price = (closing price on the day before the effective date – capital return</p>	<p><b>(10) Repurchase of shares / self-tender:</b> New adjusted price = ((closing price on the day before the effective date <math>\times</math> number of shares on the day before the effective date) – (tender price <math>\times</math> number of tendered shares)) / New adjusted number of shares New adjusted number of shares = number of shares on the day before the effective date – number of tendered shares Divisor: decreases</p>

<p>announced by company <math>\times (1 - \text{withholding tax if applicable}) \times A / B</math></p> <p>New adjusted number of shares = number of shares on the day before the effective date <math>\times B / A</math></p> <p>Divisor: decreases</p>	
<p><b>(11) Spin-off:</b></p> <p>Adjusted price of the parent company = (closing price on the day before the effective date <math>\times A - \text{price of spun-off shares} \times B) / A</math></p> <p>New number of shares for the spun-off company = number of shares on the day before the effective date of the parent company <math>\times B / A</math></p> <p>Divisor: unchanged on effective date</p>	
<p><b>(12) Combination stock distribution (dividend or split) and rights offering:</b></p> <p>For this corporate action, the following additional assumptions apply:</p> <p>Shareholders receive B new shares from the distribution and C new shares from the rights offering for every A share held.</p> <p>If A is not equal to one share, all the following “<b>new adjusted number of shares</b>” formulae need to be divided by A:</p>	
<p><i>Scenario 1: If rights are applicable after stock distribution (one action applicable to other):</i></p> <p>New adjusted price = (closing price on the day before the effective date <math>\times A + \text{subscription price} \times C \times (1 + B / A) / ((A + B) \times (1 + C / A))</math></p> <p>New adjusted number of shares = number of shares on the day before the effective date <math>\times ((A + B) \times (1 + C / A)) / A</math></p> <p>Divisor: increases</p>	<p><i>Scenario 2: If stock distribution is applicable after rights (one action applicable to other):</i></p> <p>New adjusted price = (closing price on the day before the effective date <math>\times A + \text{subscription price} \times C) / ((A + C) \times (1 + B / A))</math></p> <p>New adjusted number of shares = number of shares on the day before the effective date <math>\times ((A + C) \times (1 + B / A))</math></p> <p>Divisor: increases</p>
<p><i>Scenario 3: Stock distribution and rights (neither action is applicable to the other):</i></p> <p>New adjusted price = (closing price on the day before the effective date <math>\times A + \text{subscription price} \times C) / (A + B + C)</math></p> <p>New adjusted number of shares = number of shares on the day before the effective date <math>\times (A + B + C) / A</math></p> <p>Divisor: increases</p>	
<p><b>(13) Addition / deletion of a company:</b></p> <p>No price adjustments are made. The net change in market capitalization determines the divisor adjustment.</p> <p>If the change in market capitalization between added and deleted companies of an index increases (decreases), then the divisor increases (decreases). If the change is null, then the divisor remains unchanged.</p>	<p><b>(14) Free float and shares changes:</b></p> <p>No price adjustments are made. The net change in market capitalization determines the divisor adjustment.</p> <p>If the change in market capitalization of an index increases (decreases), then the divisor increases (decreases). If the change is null, then the divisor remains unchanged.</p>

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## THE STOXX SELECT DIVIDEND INDICES

All information contained in this underlying supplement regarding the EURO STOXX<sup>®</sup> Select Dividend 30 Index, the STOXX<sup>®</sup> Asia/Pacific Select Dividend 30 Index, the STOXX<sup>®</sup> Europe Select Dividend 30 Index, the STOXX<sup>®</sup> North America Select Dividend 40 Index and the STOXX<sup>®</sup> Global Select Dividend 100 Index (each, a “**STOXX Select Dividend Index**” and collectively, the “**STOXX Select Dividend Indices**”), including, without limitation, their make-up, method of calculation and changes in their components, has been derived from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by, STOXX Limited, a wholly owned subsidiary of Deutsche Börse AG. The STOXX Select Dividend Indices are calculated, maintained and published by STOXX Limited. STOXX Limited has no obligation to continue to publish, and may discontinue the publication of, any of the STOXX Select Dividend Indices.

### **The EURO STOXX<sup>®</sup> Select Dividend 30 Index**

The EURO STOXX<sup>®</sup> Select Dividend 30 Index is a net dividend yield-weighted index composed of 30 of the highest dividend-paying stocks relative to their home markets selected from the components of the EURO STOXX<sup>®</sup> Index, which provides a broad representation of the developed markets in the Eurozone. See “Equity Index Descriptions—The STOXX Benchmark Indices” in this underlying supplement for additional information about the EURO STOXX<sup>®</sup> Index. The component stocks of the EURO STOXX<sup>®</sup> Select Dividend 30 Index are traded on the major exchanges of 11 Eurozone countries: Austria, Belgium, Finland, France, Germany, Ireland, Italy, Luxembourg, the Netherlands, Portugal and Spain. At any given time, some eligible countries may not be represented in the EURO STOXX<sup>®</sup> Select Dividend 30 Index. Although the EURO STOXX<sup>®</sup> Select Dividend 30 Index measures the performance of high dividend-yielding companies, it is a price return index and, therefore, the return on the EURO STOXX<sup>®</sup> Select Dividend 30 Index will not include any dividends paid on the securities that make up the EURO STOXX<sup>®</sup> Select Dividend 30 Index. The euro price return version of the EURO STOXX<sup>®</sup> Select Dividend 30 Index is reported by Bloomberg L.P. under the ticker symbol “SD3E.”

### **The STOXX<sup>®</sup> Asia/Pacific Select Dividend 30 Index**

The STOXX<sup>®</sup> Asia/Pacific Select Dividend 30 Index is a net dividend yield-weighted index composed of 30 of the highest dividend-paying stocks relative to their home markets selected from the components of the STOXX<sup>®</sup> Asia/Pacific 600 Index, which provides a broad representation of the developed markets in the Asia/Pacific region. The selection list for the STOXX<sup>®</sup> Asia/Pacific 600 Index is derived from its relevant regional STOXX<sup>®</sup> Total Market Index. Otherwise, the STOXX<sup>®</sup> Asia/Pacific 600 Index is calculated and maintained using the same methodology as the STOXX<sup>®</sup> Europe 600 Index. See “Equity Index Descriptions—The STOXX Benchmark Indices” in this underlying supplement for additional information about the calculation and maintenance of the STOXX<sup>®</sup> Europe 600 Index. The component stocks of the STOXX<sup>®</sup> Asia/Pacific Select Dividend 30 Index are traded on the major exchanges of Australia, Hong Kong, Japan, New Zealand and Singapore. At any given time, some eligible countries may not be represented in the STOXX<sup>®</sup> Asia/Pacific Select Dividend 30 Index. Although the STOXX<sup>®</sup> Asia/Pacific Select Dividend 30 Index measures the performance of high dividend-yielding companies, it is a price return index and, therefore, the return on the STOXX<sup>®</sup> Asia/Pacific Select Dividend 30 Index will not include any dividends paid on the securities that make up the STOXX<sup>®</sup> Asia/Pacific Select Dividend 30 Index. The euro price return version of the STOXX<sup>®</sup> Asia/Pacific Select Dividend 30 Index is reported by Bloomberg L.P. under the ticker symbol “SD3PP.”

### **The STOXX<sup>®</sup> Europe Select Dividend 30 Index**

The STOXX<sup>®</sup> Europe Select Dividend 30 Index is a net dividend yield-weighted index composed of 30 of the highest dividend-paying stocks relative to their home markets selected from the components of the STOXX<sup>®</sup> Europe 600 Index, which provides a broad representation of the developed markets in the European region. See “Equity Index Descriptions—The STOXX Benchmark Indices” in this underlying supplement for additional information about the STOXX<sup>®</sup> Europe 600 Index. The component stocks of the STOXX<sup>®</sup> Europe Select Dividend 30 Index are traded on the major exchanges of 17 European countries: Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, Luxembourg, the Netherlands, Norway, Poland, Portugal, Spain, Sweden, Switzerland and the United Kingdom. At any

given time, some eligible countries may not be represented in the STOXX® Europe Select Dividend 30 Index. Although the STOXX® Europe Select Dividend 30 Index measures the performance of high dividend-yielding companies, it is a price return index and, therefore, the return on the STOXX® Europe Select Dividend 30 Index will not include any dividends paid on the securities that make up the STOXX® Europe Select Dividend 30 Index. The euro price return version of the STOXX® Europe Select Dividend 30 Index is reported by Bloomberg L.P. under the ticker symbol “SD3P.”

### **The STOXX® North America Select Dividend 40 Index**

The STOXX® North America Select Dividend 40 Index is a net dividend yield-weighted index composed of 40 of the highest dividend-paying stocks relative to their home markets selected from the components of the STOXX® North America 600 Index, which provides a broad representation of the developed markets in the North American region. The selection list for the STOXX® North America 600 Index is derived from its relevant regional STOXX® Total Market Index. Otherwise, the STOXX® North America 600 Index is calculated and maintained using the same methodology as the STOXX® Europe 600 Index. See “Equity Index Descriptions—The STOXX Benchmark Indices” in this underlying supplement for additional information about the calculation and maintenance of the STOXX® Europe 600 Index. The component stocks of the STOXX® North America Select Dividend 40 Index are traded on the major exchanges of Canada and the United States. At any given time, some eligible countries may not be represented in the STOXX® North America Select Dividend 40 Index. Although the STOXX® North America Select Dividend 40 Index measures the performance of high dividend-yielding companies, it is a price return index and, therefore, the return on the STOXX® North America Select Dividend 40 Index will not include any dividends paid on the securities that make up the STOXX® North America Select Dividend 40 Index. The euro price return version of the STOXX® North America Select Dividend 40 Index is reported by Bloomberg L.P. under the ticker symbol “SD4AP.”

### **The STOXX® Global Select Dividend 100 Index**

The STOXX® Global Select Dividend 100 Index is a combination of the STOXX® Asia/Pacific Select Dividend 30 Index, the STOXX® Europe Select Dividend 30 Index and the STOXX® North America Select Dividend 40 Index. Accordingly, the STOXX® Global Select Dividend 100 Index is composed of the component stocks of the STOXX® Asia/Pacific Select Dividend 30 Index, representing 30 of the highest dividend-paying stocks selected from the developed markets in the Asia/Pacific region (from the components of the STOXX® Asia/Pacific 600 Index), the STOXX® Europe Select Dividend 30 Index, representing 30 of the highest dividend-paying stocks selected from the developed markets in the European region (from the components of the STOXX® Europe 600 Index), and the STOXX® North America Select Dividend 40 Index, representing 40 of the highest dividend-paying stocks selected from the developed markets in the North American region (from the components of the STOXX® North America 600 Index). At any given time, some eligible countries may not be represented in the STOXX® Global Select Dividend 100 Index. Although the STOXX® Global Select Dividend 100 Index measures the performance of high dividend-yielding companies, it is a price return index and, therefore, the return on the STOXX® Global Select Dividend 100 Index will not include any dividends paid on the securities that make up the STOXX® Global Select Dividend 100 Index. The euro price return version of the STOXX® Global Select Dividend 100 Index is reported by Bloomberg L.P. under the ticker symbol “SDGP.”

### **Composition and Maintenance of the STOXX Select Dividend Indices**

The table below sets forth each “Regional Select Dividend Index” with its corresponding “Parent Index” and number of component stocks.

<b>Regional Select Dividend Index</b>	<b>Parent Index</b>	<b>Number of Component Stocks</b>
EURO STOXX® Select Dividend 30 Index	EURO STOXX® Index	30 component stocks

<b>Regional Select Dividend Index</b>	<b>Parent Index</b>	<b>Number of Component Stocks</b>
STOXX® Asia/Pacific Select Dividend 30 Index	STOXX® Asia/Pacific 600 Index	30 component stocks
STOXX® Europe Select Dividend 30 Index	STOXX® Europe 600 Index	30 component stocks
STOXX® North America Select Dividend 40 Index	STOXX® North America 600 Index	40 component stocks

For each Regional Select Dividend Index, the components of the corresponding Parent Index and their secondary share lines are eligible for inclusion in the applicable selection list. For companies with more than one share line, the line with the higher dividend yield is chosen. Two share lines of one company cannot be simultaneously components of the same index. If more than one share line of a company is eligible, and one share line is a current component, priority is given to this share line, which remains in the index until the next annual review. If this share line fails to fulfill any of the index selection criteria applicable to components or is ranked below the minimum buffer rule in the corresponding index selection list, it is replaced by the second share line, conditional on the second share line being ranked sufficiently as highest non-component of the index selection list, or alternatively by the next highest ranked non-component.

Companies are screened for the following criteria: indicated annualized dividend (applies for components and non-components), non-negative dividend growth rate over the past five years (applies quarterly for non-components only based on gross dividend payments), dividend payments in four out of five calendar years (applies quarterly for non-components only), non-negative payout ratio (applies for components and non-components at annual review and applies quarterly for non-components), payout ratio of less than or equal to 80% (applies quarterly for non-components only) with respect to the STOXX® Asia/Pacific Select Dividend 30 Index or less than or equal to 60% (applies quarterly for non-components only) with respect to the other Regional Select Dividend Indices and a minimum average daily traded value over the preceding three months (applies quarterly for non-components only) of approximately 10.00 million euros with respect to the EURO STOXX® Select Dividend 30 Index, approximately 5.00 million euros with respect to the STOXX® Asia/Pacific Select Dividend 30 Index, the STOXX® Europe Select Dividend 30 Index and the STOXX® North America Select Dividend 40 Index.

For the STOXX® North America Select Dividend 40 Index, all companies on the selection list are ranked according to the ratio of their net dividend yield to the net dividend yield of the STOXX® Total Market Index for the relevant country. For each of the other Regional Select Dividend Indices, all companies on the applicable selection list are ranked according to the ratio of their net dividend yield to the greater of the net dividend yield of the STOXX® Total Market Index for the relevant country and the net dividend yield of the STOXX® Total Market Index for the relevant region.

For each of the EURO STOXX® Select Dividend 30 Index and the STOXX® Europe Select Dividend 30 Index, all current companies ranked from 1 to 60 in the applicable selection list will remain in the relevant Regional Select Dividend Index. If fewer than 30 companies are included in the EURO STOXX® Select Dividend 30 Index or the STOXX® Europe Select Dividend 30 Index, the highest ranked non-components are added until 30 companies are included in the relevant Regional Select Dividend Index.

For the STOXX® Asia/Pacific Select Dividend 30 Index, the companies are ranked by the net dividend yield ratio described above for each country and region as a whole. All current companies ranked 1 to 20 in each country ranking will remain in the STOXX® Asia/Pacific Select Dividend 30 Index. A maximum of 10 companies per country can be included. If fewer than 30 companies are included, the highest ranked non-components from the regional ranking are added until 30 companies are included in the STOXX® Asia/Pacific Select Dividend 30 Index.

For the STOXX® North America Select Dividend 40 Index, the companies are ranked by the net dividend yield ratio described above for each country and region as a whole. All current companies ranked 1 to 60 in each country ranking remain in the STOXX® North America Select Dividend 40 Index. A maximum of 30 companies per country can be included. If fewer than 40 companies are included, the highest ranked non-components from the regional ranking are added until 40 companies are included in the STOXX® North America Select Dividend 40 Index.

The composition of each STOXX Select Dividend Index is reviewed annually in March. Each STOXX Select Dividend Index is also reviewed on an ongoing basis. The selection list of each STOXX Select Dividend Index is reviewed and updated quarterly. Certain corporate actions (including initial public offerings, mergers and takeovers, spin-offs, delistings, bankruptcy, and price and share adjustments) that affect a Parent Index composition are immediately reviewed. Any changes are announced, implemented and effective in line with the type of corporate action and the magnitude of the effect. To maintain the number of components constant, a deleted company is replaced by the highest-ranked non-component on the relevant selection list. Each selection list is updated on a quarterly basis according to the review component selection process. Any restrictions on the maximum count per country are applied. If a company is deleted from a Parent Index between the annual review dates but is still a component of the STOXX® Total Market Index for the relevant region, the company will remain in the corresponding STOXX Select Dividend Index until the next annual review, *provided* that it still meets the requirements for that STOXX Select Dividend Index.

If STOXX Limited becomes aware of dividend data changes for the current components of a STOXX Select Dividend Index, the following index adjustments may occur. The timing of the index adjustment depends on the changes in the dividend data.

If the company cancels one of its dividends, the company will be deleted from the relevant STOXX Select Dividend Index, the replacement will be announced immediately, implemented two trading days later and become effective the next trading day. The case of dividend cancellation does not apply to dividends whose payment is postponed within the same fiscal year. Dividends whose payment is postponed indefinitely or to a subsequent fiscal year are considered cancelled. In case a company pays its dividends for a fiscal year in tranches, after the first tranche has been paid, the cancellation of one or more remaining tranches or the postponement of their payment to a subsequent fiscal year is treated as a lowering of dividend.

If the company lowers its dividend, the company will remain in the relevant STOXX Select Dividend Index until the next selection list is available. If the company is ranked at or above the rank threshold for the relevant Regional Select Dividend Index, it is retained. If it is ranked below the rank threshold with respect to that Regional Select Dividend Index, it is removed and replaced by the highest-ranked non-component on that selection list. The changes will be announced on the fifth trading day of the month together with the applicable selection list and become effective on the first trading day after the third Friday of the month. The weight factors for the new components will be published on the quarterly underlying data announcement based on previous day closing prices.

### Calculation of the STOXX Select Dividend Indices

Each STOXX Select Dividend Index is calculated based on the prices of the component stocks and weighting factors. The formula for calculating a STOXX Select Dividend Index value can be expressed as follows:

$$\text{Index} = \frac{\text{total "units" of the relevant STOXX Select Dividend Index}}{\text{divisor}}$$

The **"total "units" of the relevant STOXX Select Dividend Index"** is equal to the sum of the products, for each component stock, of the price, weighting factor, weighting cap factor and, if applicable,

the exchange rate from the local currency into the index currency of the relevant STOXX Benchmark Index as of the time that the relevant STOXX Select Dividend Index is being calculated.

The weighting factor for each component stock is equal to the ratio of (a) the net dividend of the issuer of that component stock divided by the closing price of that component stock (the “**net dividend yield**”) to (b) the sum of the net dividend yields of the issuers of all component stocks. The weighting factors are published on the second Friday in March, one week prior to quarterly review implementation using Thursday’s closing prices.

In addition, each STOXX Select Dividend Index applies a weighting cap factor for each component stock of  $(1,000,000,000 \times \text{initial weight of that component} / \text{closing price of that component stock in euros})$ , rounded to the nearest integer. An additional cap factor limits the weight of each component stock within a STOXX Select Dividend Index to a maximum of 10% with respect to the STOXX® Global Select Dividend 100 Index or 15% with respect to the other STOXX Select Dividend Indices at the time of each review. All weighting cap factors are reviewed quarterly.

Each STOXX Select Dividend Index is also subject to a divisor, which is adjusted to maintain the continuity of the relevant STOXX Select Dividend Index values across changes due to corporate actions. Changes in weights due to corporate actions are distributed proportionally across all stock components of the relevant STOXX Select Dividend Index. The following is a summary of the adjustments to any component stock of a STOXX Select Dividend Index made for corporate actions and the effect of such adjustment on the divisor of that STOXX Select Dividend Index, where shareholders of the component stock will receive “B” number of shares for every “A” share held (where applicable). All corporate actions and dividends are implemented at the effective date (ex-date).

**(1) Special cash dividend:**

Cash distributions that are outside the scope of the regular dividend policy or that the company defines as an extraordinary distribution

New adjusted price = closing price on the day before the effective date – dividend announced by the company  $\times (1 - \text{withholding tax if applicable})$

Divisor: decreases

**(2) Split and reverse split:**

New adjusted price = closing price  $\times A / B$

New adjusted weighing factor = weighting factor on the day before the effective date  $\times B / A$

Divisor: unchanged

**(3) Rights offering (standard rights issue):**

If the subscription price is not available or if the subscription price is equal to or greater than the closing price on the day before the effective date, then no adjustment is made.

If the subscription price is available as a price range and not as a fixed price, the price and share adjustment is performed only if both lower and upper range are in the money. The average value between lower and upper range will be used as a subscription price.

New adjusted price = (closing price on the day before the effective date × A + subscription price × B) / (A + B)

New adjusted weighing factor = weighting factor on the day before the effective date × price on the day before the effective date / new adjusted price

Divisor: unchanged

**(4) Rights offerings (highly dilutive rights issue):**

If the share ratio is greater than or equal to 200% ( $B / A \geq 2$ ), a rights offering is considered to be a highly dilutive rights issue ("HDRI").

*Scenario 1: If a HDRI is fully underwritten:*

it will be implemented as a stand rights issue as described above.

Divisor: unchanged

*Scenario 2: Where a HDRI is not fully underwritten and the rights are tradable on the effective date on the same eligible stock exchange as the parent company:*

(a) the rights will be included into the indices with a theoretical price on the effective date with the same parameters as the parent company;

Divisor: unchanged on effective date

(b) the rights will be removed at the close of the day they start to trade based on its closing price.

Divisor: decreases after deletion of rights

*Scenario 3: Where a HDRI is not fully underwritten and the rights are not tradable on the effective date or not tradeable on the effective date on the same eligible stock exchange as the parent company:*

(a) the rights will be included into the indices with a theoretical price on the effective date with the same parameters as the parent company;

Divisor: unchanged on effective date

(b) the rights will be removed on the effective date at close, using a price of 0.0000001 in local currency.

Divisor: unchanged

**(5) Stock dividend (ordinary):**

New adjusted price = closing price × A / (A + B)

New adjusted weighing factor = weighting factor on the day before the effective date × (A + B) / A

Divisor: unchanged

**(6) Stock dividend from treasury stock:**

Adjusted only if treated as special cash dividends.

New adjusted price = closing price on the day before the effective date – closing price on the day before the effective date × B / (A + B)

Divisor: decreases

<p><b>(7) Stock dividend from redeemable shares:</b></p> <p>Adjusted only if treated as special cash dividend. In such a case, redeemable shares are considered as a separated share line with a fixed price and ordinary shares that are self-tendered on the same effective date.</p> <p>New adjusted price = closing price on the day before the effective date – closing price on the day before the effective date × B / (A + B)</p> <p>Divisor: decreases</p>	<p><b>(8) Stock dividend of another company:</b></p> <p>New adjusted price = (closing price on the day before the effective date × A – price of other company × B × (1 – withholding tax if applicable)) / A</p> <p>Divisor: decreases</p>
<p><b>(9) Return of capital and share consolidation:</b></p> <p>The event will be applied as a combination of cash/special dividend together with a reverse split.</p> <p>If the return of capital is considered as regular cash dividend, then the treatment under “Split and Reverse Split” above applies.</p> <p>If the return of capital is considered as special cash dividend, then the treatment under “Special Cash Dividend” and “Split and Reverse Split” above apply accordingly.</p> <p>New adjusted price = (closing price on the day before the effective date – capital return announced by company × (1 – withholding tax if applicable)) × A / B</p> <p>New adjusted weighing factor = weighting factor on the day before the effective date × B / A</p> <p>Divisor: decreases</p>	<p><b>(10) Repurchase of shares / self-tender:</b></p> <p>New adjusted price = ((price on the day before the effective date × number of shares on the day before the effective date) – (tender price × number of tendered shares)) / New adjusted number of shares</p> <p>New adjusted weighting factor = weighting factor on the day before the effective date × price on the day before the effective date / new adjusted price</p> <p>Divisor: unchanged</p>
<p><b>(11) Spin-off:</b></p> <p>Adjusted price of the parent company = (closing price on the day before the effective date × A – price of spun-off shares × B) / A</p> <p>New adjusted weighing factor = weighting factor on the day before the effective date × B / A</p> <p>Divisor: unchanged on effective date</p>	
<p><b>(12) Combination stock distribution (dividend or split) and rights offering:</b></p> <p>For this corporate action, the following additional assumptions apply:</p> <p>Shareholders receive B new shares from the distribution and C new shares from the rights offering for every A share held.</p>	

<p><i>Scenario 1: If rights are applicable after stock distribution (one action applicable to other):</i></p> <p>New adjusted price = (closing price on the day before the effective date × A + subscription price × C × (1 + B / A)) / ((A + B) × (1 + C / A))</p> <p>New adjusted weighing factor = weighting factor on the day before the effective date × price on the day before the effective date / new adjusted price</p> <p>Divisor: unchanged</p>	<p><i>Scenario 2: If stock distribution is applicable after rights (one action applicable to other):</i></p> <p>New adjusted price = (closing price on the day before the effective date × A + subscription price × C) / ((A + C) × (1 + B / A))</p> <p>New adjusted weighing factor = weighting factor on the day before the effective date × price on the day before the effective date / new adjusted price</p> <p>Divisor: unchanged</p>
<p><i>Scenario 3: Stock distribution and rights (neither action is applicable to the other):</i></p> <p>New adjusted price = (closing price on the day before the effective date × A + subscription price × C) / (A + B + C)</p> <p>New adjusted weighing factor = weighting factor on the day before the effective date × price on the day before the effective date / new adjusted price</p> <p>Divisor: unchanged</p>	
<p><b>(13) Addition / deletion of a company:</b></p> <p>No price adjustments are made. The net change in units determines the divisor adjustment.</p> <p>If the change in units between added and deleted companies of an index increases (decreases), then the divisor increases (decreases). If the change is null, then the divisor remains unchanged.</p>	<p><b>(14) Free float and shares changes:</b></p> <p>No price adjustments are made. The net change in units determines the divisor adjustment.</p> <p>If the change in units of an index increases (decreases), then the divisor increases (decreases). If the change is null, then the divisor remains unchanged.</p>

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**STOXX and its Licensors will not have any liability in connection with the notes. Specifically,**

- **STOXX and its Licensors do not make any warranty, express or implied and disclaim any and all warranty about:**
  - **The results to be obtained by the notes, the holders of the notes or any other person in connection with the use of any STOXX Select Dividend Index and the data included in any STOXX Select Dividend Index;**
  - **The accuracy or completeness of any STOXX Select Dividend Index and its data; or**
  - **The merchantability and the fitness for a particular purpose or use of any STOXX Select Dividend Index and its data;**
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## THE SWISS MARKET INDEX

All information contained in this underlying supplement regarding the Swiss Market Index (the “SMI<sup>®</sup>”), including, without limitation, its make-up, method of calculation and changes in its components, has been derived from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by, SIX Swiss Exchange Ltd (“SSE”). The SMI<sup>®</sup> is calculated, maintained and published by SSE. SSE has no obligation to continue to publish, and may discontinue publication of, the SMI<sup>®</sup>.

The SMI<sup>®</sup> is reported by Bloomberg L.P. under the ticker symbol “SMI.”

The SMI<sup>®</sup> is a free float-adjusted market capitalization-weighted price return index of the Swiss equity market. The SMI<sup>®</sup> was standardized on June 30, 1988 with an initial baseline value of 1,500 points.

### Composition of the SMI<sup>®</sup>

The SMI<sup>®</sup> is composed of the largest and liquid stocks of the Swiss Performance Index (“SPI<sup>®</sup>”). The SMI<sup>®</sup> represents more than 75% of the free float market capitalization of the Swiss equity market.

The SMI<sup>®</sup> is composed of the 20 largest and most liquid securities of the SPI<sup>®</sup>, where the ranking of each security is determined by a combination of the following criteria:

- average free float market capitalization over the last 12 months (compared to the capitalization of the entire SPI<sup>®</sup>); and
- Cumulative order book turnover over the last 12 months (compared to the total turnover of the SPI<sup>®</sup>).

The average free float market capitalization in percent and the cumulative order book turnover in percent are each given a weighting of 50% and the result is sorted in descending order. A security is excluded from the SMI<sup>®</sup> if it ranked 23 or lower in the selection list. To reduce fluctuations in the SMI<sup>®</sup>, a buffer is applied for securities ranked 19 to 22. Out of the candidates from ranks 19 to 22, current components are selected with priority over the other candidates. New components from the buffer are selected until 20 components have been reached. Instruments that are primary listed on more than one stock exchange and generate less than 50% of their total turnover at SIX Swiss Exchange, need to fulfill additional liquidity criteria in order to be selected for the SMI<sup>®</sup>. For this purpose, at the ordinary index review in September, all components of the SPI<sup>®</sup> are ranked in descending order according to their cumulative order book turnover of the last 12 months relative to the total turnover of the index universe. Such an instrument with multiple primary listings must rank may not be ranked lower than 18<sup>th</sup> on this list in order to be selected for the SMI<sup>®</sup>. If such an instrument, which is a component, is ranked at position 23 or lower, it will be excluded from the SMI<sup>®</sup>.

### Standards for Admission and Exclusion

To ensure that the composition of the SMI<sup>®</sup> maintains a high level of continuity, the stocks contained within it are subject to a special admission and exclusion procedure. This is based on the criteria of free float market capitalization and liquidity. The index-basket adjustments which arise from this procedure are, as a rule, made once per year.

The securities included in the SMI<sup>®</sup> are weighted according to their free float market capitalization. The free float factor is a relative factor multiplied by the number of shares to ensure that only shares available for trading are included in the index calculation. The free float factor is only calculated for shares with voting rights. Substantial shares that reach or exceed the threshold of 5% and are in fixed ownership are deducted from the market capitalization. Shares that meet the following conditions are considered to be in fixed ownership:

- Shares held by individual persons or groups of persons bound by a shareholders’ agreement.

- Shares held by individual persons or groups of persons who, according to publicly known facts, have a long-term interest in the company.

Irrespective of the above provisions, shares held by the groups listed below are counted as free float:

- Administrators
- Trustee
- Investment funds companies
- Pension funds
- Investment companies

If a person or a group of persons cannot be clearly classified due to their area of activity or the lack of important information, SIX assesses them at its own discretion.

#### *Ordinary Index Review*

Each year on the third Friday of September, the composition of the SMI® is adjusted in the ordinary index review based on the latest available selection list. A provisional selection list is created for the cut-off dates of 31 March, 30 September and 31 December. It serves as a basis for the adjustment of extraordinary corporate actions. The number of securities and free float factor for each component are adjusted on four ordinary adjustment dates a year: the third Friday in March, June, September and December.

#### *Extraordinary Corporate Actions*

Extraordinary corporate actions include initial public offerings (“IPOs”), mergers and acquisitions, spin-offs, insolvencies or any other events leading to a listing or delisting. Although there is a clearly defined effective date for an extraordinary corporate action, its effect can usually not be anticipated with a generally valid formula. Since in most cases an extraordinary corporate action involves index-relevant listing or delisting, an extraordinary adjustment (inclusion or exclusion) of the index composition and its weighting is made.

A company newly listed on an approved Stock Exchange that fulfills the selection rules of the SMI® is extraordinarily included in the SMI® on its second trading day, where the last traded price for the company on the first trading day is used.

In the event of a planned delisting, the exclusion of a component will be carried out, if possible, at the next ordinary index review on the 3rd Friday in March, June, September or December. However, if the delisting is effective prior to the next ordinary index review, the component will be excluded from the SMI® on the effective date of the delisting. Similarly, a component which no longer meets the criteria for remaining in the SMI® due to a pending takeover may be excluded from the SMI® ahead of time. In order to keep the number of components stable for indices with a fixed number of components, the extraordinarily excluded component is replaced by the first ranked candidate of the applicable selection list.

Extraordinary exclusions and inclusions are usually implemented after an announcement period of 5 trading days. Adjusted capping factors are usually implemented considering an announcement period of 5 trading days, but at least of one trading day. This occurs on a quarterly basis after the close of trading on the third Friday of March, June, September and December as follows:

<b>Latest Listing Date</b>	<b>Earliest Extraordinary Inclusion Date</b>
5 trading days prior to the end of November	March

5 trading days prior to the end of February	June
5 trading days prior to the end of May	September
5 trading days prior to the end of August	December

In the event of major market changes as a result of a corporate action, an instrument may be included in the SMI® outside the specified deadlines, *provided* that the selection criteria of the SMI® are clearly met. For the same reasons, however, a component may also be excluded if the requirements for remaining in the SMI® are no longer met.

### Calculation of the SMI®

The SMI® is calculated using the Laspeyres method with the weighted arithmetic mean of a defined number of securities issues. The formula for calculating the level of the SMI® can be expressed as follows:

$$\text{Index Level} = \frac{\text{Free float market capitalization of the SMI®}}{\text{divisor}}$$

The “free float market capitalization of the SMI®” is equal to the sum of the products, for each component, of the last-paid price, number of shares, free float factor, capping factor (if applicable) and the current Swiss franc exchange rate (if applicable) as of the time the SMI® is being calculated.

The divisor is a technical number used to standardize the index level of the SMI® to a meaningful size at inception of the SMI®. The divisor is updated from the day on which the base value of the SMI® was determined. Also, the divisor is used throughout the life of the SMI® to compensate for external effects that may lead to a potential daily change in the market value. These effects normally take the form of corporate actions and have a defined effective date. Therefore, the divisor is adjusted daily and kept constant within a day. The new divisor is calculated in the evening of the day before the corporate action becomes effective.

All instrument prices used to calculate the index level of the SMI® are unfiltered and are received by the SIX trading platforms during official trading hours. In calculating the SMI®, the last available price is used. If no paid price has been established on the calculation day, the price used to calculate the last index tick of the previous day applies. Only prices that come via the SIX electronic order book are taken into account. In order to consider possible price fluctuations at the opening of trading, the index calculation starts two minutes after the start of trading of the order book. The definitive daily closing prices of the components from the closing auction are used to calculate the closing level of the SMI®. If no daily closing price is available, the price used to calculate the last index tick is used. This could also be a bid price.

#### *Component Weighting*

The SMI® is weighted by the free-float market capitalization of its components. The number of shares and the free float factor are adjusted on a quarterly basis. In the same context, each component of the SMI® with a free-float market capitalization of more than 18% of the total market capitalization of the SMI® is limited to this 18% with a capping floor.

In addition, the components of the SMI® will be capped to 18% between two ordinary index reviews as soon as two components exceed a weight of 20% each. If such a limit violation is detected at the close of trading, the new capping factors are calculated so that any component again has a maximum weight of 18%. This capping factor is set to be effective after the close of trading on the following trading day.

If an issuer has issued more than one equity instrument (e.g., registered shares, bearer shares, participation certificates, bonus certificates), the issuer may be represented in the SMI® with more than

one instrument. In this case, the free-float market capitalization is cumulated for the calculation of the capping factors. If the cumulated index weighting exceeds the threshold of 18%, the weighting is capped accordingly. The cumulated, capped index weighting is allocated again to the individual shares according to the proportion of their free-float market capitalization.

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SSE is under no obligation to continue the calculation and dissemination of the SMI<sup>®</sup>. SSE determines, composes and calculates the SMI<sup>®</sup> without regard to the notes. SSE has no obligation to take into account your interest, or that of anyone else having an interest, in the notes in determining, composing or calculating the SMI<sup>®</sup>.

## THE TOPIX® INDEX

All information contained in this underlying supplement regarding the Tokyo Stock Price Index, or the TOPIX® Index, including, without limitation, its make-up, method of calculation and changes in its components, has been derived from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by, JPX Market Innovation & Research, Inc. (the “JPXI”). The TOPIX® Index is calculated, maintained and published by the JPXI. The JPXI has no obligation to continue to publish, and may discontinue the publication of, the TOPIX® Index.

The TOPIX® Index was developed by the Tokyo Stock Exchange, Inc. (the “TSE”). Publication of the TOPIX® Index began on July 1, 1969, based on an initial index value of 100 on January 4, 1968, which was reset at 1,000 on April 1, 1998. The TOPIX® Index is computed and published every second via TSE’s Market Information System and is reported to securities companies across Japan and available worldwide through computerized information networks. The TOPIX® Index is reported by Bloomberg L.P. under the ticker symbol “TPX.”

### Composition of the TOPIX® Index

The TOPIX® Index is a capped free float-adjusted market capitalization-weighted index of domestic common stocks listed on the TSE covering an extensive portion of the Japanese stock market.

On April 4, 2022, JPXI began revisions to the TOPIX® Index in conjunction with the restructuring of the TSE into three new market segments: the Prime Market, the Standard Market and the Growth Market. Prior to April 4, 2022, the component stocks of the TOPIX® Index consisted of all Japanese common stocks listed on the First Section of the TSE. Stocks that were components of the TOPIX® Index as of April 1, 2022 remained components after the market restructuring, regardless of their new market segment. However, component stocks with tradeable share market capitalization of under JPY 10 billion on the base date of June 20, 2021 were designated as “phased weighting reduction constituents,” and their weighting was gradually reduced in ten stages on the last business day of each quarter beginning in October 2022 and ending in January 2025 (with a re-evaluation after the fourth stage). Those component stocks that did not meet re-evaluation after the fourth stage were removed from the TOPIX® Index on the last business day of January 2025. As of January 31, 2025, the component stocks of the TOPIX® Index include a selection of Japanese common stocks listed on the Prime Market, the Standard Market and the Growth Market of the TSE.

In January 2025, JPXI began the second phase of revisions of the TOPIX® Index, introducing a new stock selection process and periodic reviews (as described below). Component stocks that were components of the TOPIX® Index as of the last business day of January 2025 remained as its components. However, component stocks that are not selected for continuation under the stock selection process described below in the first periodic review occurring in October 2026 will have their weighting gradually reduced in eight stages on the last business day of each quarter beginning in October 2026 and ending in July 2028. Subject to re-evaluation after the fourth stage, such stocks will be removed from the TOPIX® Index on the last business day of July 2028.

### Component Stock Selection Process

*Periodic Review.* The component stocks of the TOPIX® Index are subject to annual periodic review. A periodic review will be conducted once a year on the last business day of October. The periodic review base date will be the last business day of August. However, the first periodic review will be conducted on the last business day of October 2026 (with a periodic review base date as of the last business day of August 2026), and the second periodic review will be on the last business day of October 2028 (with periodic review base date as of the last business day of August 2028).

*Selection of the Index Universe.* The index universe for the TOPIX® Index includes all constituents of the TSE Prime Market Index, the TSE Standard Market Index and the TSE Growth Market Index as of the applicable periodic review base date. However, securities that fall under the following criteria are excluded from the index universe:

- securities designated as “to be delisted” as of the periodic review base date; and
- securities designated as on “special alert” as of the periodic review base date.

In addition, securities that are or are likely to be designated as “securities to be delisted” or “securities on special alert” between the periodic review base date and the periodic rebalance date may also be excluded from the index universe.

*Selection of Component Stocks.* Of the securities included in the index universe, securities that meet both the “traded value ratio” and the “free float-adjusted market capitalization” criterion in the below table will be selected as component stocks of the TOPIX® Index:

	<b>Indicator</b>	<b>Inclusion Criteria</b>	<b>Continuation Criteria</b>
Traded value ratio	Annual traded value ratio	0.2 or more	0.14 or more
Free float-adjusted market capitalization	Percentage of cumulative free float-adjusted market capitalization	Securities in the top 96%	Securities in the top 97%

The continuation criteria will be applied to securities that are constituents as of the periodic review base date, and the inclusion criteria will be applied to securities that are not constituents as of that base date.

*Additions and Deletions of Component Stocks Outside of the Annual Periodic Review.* Constituents will be removed from the TOPIX® Index outside of a periodic review if they have been (i) delisted or (ii) designated as “securities to be delisted” or “securities on special alert.”

Constituents will be added to the TOPIX® Index outside of a periodic review if (i) a constituent has been delisted due to a share transfer, merger, share exchange, or company split and the newly created, surviving, parent or succeeding company is listed without delay; (ii) a spin-off from a constituent results in a new listing of the spun-off company between the ex-rights date and the effective date; (iii) a constituent has been delisted due to a share exchange or absorption type merger, and the surviving or parent company is not a constituent; (iv) prior to November 2026, a stock is newly listed or transferred to the Prime Market, with this change taking effect on the last business day of the month following the date of the initial listing or transfer; or (v) beginning in November 2026, a stock is newly listed or transferred to the Prime Market, Standard Market or Growth Market and its free float-adjusted market capitalization exceeds the minimum free float-adjusted market capitalization for stocks included within the cumulative ratio of 95% of the free float-adjusted market capitalization in the periodic review immediately preceding the date of the initial listing, with this change taking effect on the last business day of the month following the date of the initial listing or transfer.

### Calculation of the TOPIX® Index

The TOPIX® Index is a capped free float-adjusted market capitalization-weighted index. The TOPIX® Index is not expressed in Japanese yen, but is presented in terms of points (as a decimal figure), rounded to the nearest one-hundredth. The TOPIX® Index is calculated by multiplying 100 by the figure obtained by dividing the current free float-adjusted market value (the current market price per share at the time of the index calculation multiplied by the applicable number of free float-adjusted common shares listed on the TSE at the same instance) (the “**Current Market Value**”) by the base market value (i.e., the Current Market Value on the base date) (the “**Base Market Value**”).

The calculation of the TOPIX® Index can be represented by the following formula:

$$\text{Index} = \frac{\text{Current Market Value}}{\text{Base Market Value}} \times 100$$

*Individual Constituent Weight Cap.* The upper weighting limit for any one constituent of TOPIX® Index is 10%. If an issue's weight calculated by free float-adjusted market capitalization as of the last business day of every August is over the upper limit, a cap-adjustment factor for adjustment of weight will be applied to said issue on the last business day of October. Even if the weight again exceeds the upper limit due to stock price movements or other reasons, the cap-adjustment factor will not be changed until the last business day of the next October.

*Number of Shares Used for Index Calculation.* The number of shares used in the above calculation is adjusted by multiplying the number of shares listed by a free float weight (“**FFW**”) ratio. The FFW ratio is the percentage of listed shares deemed to be available for trading in the public market. The purpose of the FFW ratio is to exclude shares that are deemed to be not available to investors in the public markets. JPXI considers the following to be non-free float shares: shares held by the top 10 major shareholders (subject to certain exceptions), treasury and other similar stock (including certain cross-share holdings that have limited voting rights), shares held by board members and other representatives, shares held by other listed companies for investment purposes other than pure investment and other shares deemed by JPXI to be unavailable for trading in the market. The FFW is equal to 1 minus the number of non-free float shares divided by the number of listed shares. In the case of some companies with low liquidity, the JPXI may adjust their free float downwards by applying a “liquidity factor.”

*Changes in Number of Shares Used for Index Calculation.* Changes in the number of shares will be made due to changes to the free float weight ratio using the stock price at the end of trading on the business day before the adjustment date. The free float weight ratio assigned to each listed company is reviewed annually, with timings that vary according to the settlement terms of each such listed company. Free float weights may also be subject to extraordinary review in the case of certain corporate actions (e.g., allocation of new shares to a third party, conversion of preferred shares or exercise of subscription warrants, company spin-offs, mergers, acquisitions, stock swaps, take-over bids) and for other reasons JPXI believes appropriate.

In addition, changes in the number of shares will be made for certain other events including: public offering, third-party-allotment, issues to shareholders with payment, exercise of subscription warrants, conversion of preferred stock, cancellation of treasury stock, merger/acquisition, a spin-off by a constituent that results in a new listing of the spun-off company between the ex-rights date and the effective date, sale of shares held by the Government of Japan (Nippon Telegraph and Telephone, Japan Tobacco, Japan Post Holdings and Tokyo Metro only), rights offering (limited to cases where the allotted subscription warrant securities are listed), demerger (absorption-type) and other events for which adjustments are deemed appropriate, such as stock splits.

*Adjustments to Base Market Value.* Whenever the market value of the TOPIX® Index changes due to an increase or decrease in constituents, capital increase or similar events other than market fluctuations, the Base Market Value is adjusted with the aim of maintaining continuity. Such events requiring adjustment include the addition or removal of component stocks as well as changes in the number of shares used for index calculation.

The formula for the adjustment is as follows:

The formula for the adjustment is as follows:

$$\frac{\text{Free float-adjusted Market Value on business day before adjustment date}}{\text{Base Market Value before adjustment}} = \frac{(\text{Free float-adjusted Market Value on business day before adjustment date} \pm \text{Adjustment Amount})}{\text{Base Market Value after adjustment}}$$

Where “**Adjustment Amount**” is equal to the changes in the number of shares included in the calculation of the TOPIX® Index *multiplied* by the price of those shares used for the purposes of the adjustment.

Therefore,

$$\text{New Base Market Value} = \frac{\text{Old Base Market Value} \times (\text{Free float-adjusted Market Value on business day before adjustment date} \pm \text{Adjustment Amount})}{\text{Free float-adjusted Market Value on business day before adjustment date}}$$

The Base Market Value remains at the new value until a further adjustment is necessary as a result of another change. As a result of such change affecting the Current Market Value or any stock underlying the TOPIX® Index, the Base Market Value is adjusted in such a way that the new value of the TOPIX® Index will equal the level of the TOPIX® Index immediately prior to such change. No adjustment is made to the Base Market Value, however, in the case of events such as stock splits, gratis allotment of shares (limited to cases where the allotment is of treasury stock) and reverse splits, which theoretically do not affect market value.

Information on the reasons for base market value adjustments, details on the adjustments, adjustment dates and other data is available through TSE’s notice system, published daily by TSE based on reports and other information from listed companies.

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Including but not limited to the foregoing, JPXI shall not be responsible for any damage resulting from the issue and sale of the notes.

## EQUITY FUTURES INDEX DESCRIPTIONS

### THE DOW JONES INDUSTRIAL AVERAGE® FUTURES EXCESS RETURN INDEX

All information contained in this underlying supplement regarding the Dow Jones Industrial Average® Futures Excess Return Index (the “**DJIA Futures Index**”), including, without limitation, its make-up, method of calculation and changes in its components, has been derived from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by, S&P Dow Jones Indices LLC (“**S&P Dow Jones**”). The DJIA Futures Index is calculated, maintained and published by S&P Dow Jones. S&P Dow Jones has no obligation to continue to publish, and may discontinue the publication of, the DJIA Futures Index.

The DJIA Futures Index measures the performance of a rolling position in the nearest maturing quarterly E-mini® Dow Jones Industrial Average® futures contracts (Symbol: YM) (the “**Underlying Futures Contracts**”) trading on the Chicago Mercantile Exchange (the “**Exchange**”). E-mini® Dow Jones Industrial Average® futures contracts are U.S. dollar-denominated futures contracts based on the Dow Jones Industrial Average®. For more information about the Dow Jones Industrial Average®, please see “Equity Index Descriptions — The Dow Jones Industrial Average®” in this underlying supplement. The DJIA Futures Index is reported by Bloomberg L.P. under the ticker symbol “DJIAFP.”

#### Index Rolling

As each Underlying Futures Contract approaches maturity, it is replaced by the next maturing Underlying Futures Contract in a process referred to as “rolling.” The rolling of the DJIA Futures Index occurs quarterly over a one-day rolling period (the “**roll day**”) every March, June, September and December, effective after the close of trading five business days preceding the last trading date of the maturing Underlying Futures Contract, subject to adjustment in the case of holidays or market disruptions.

#### Index Calculation

The DJIA Futures Index is an excess return index, meaning that its performance is based solely on changes in the daily contract price of its Underlying Futures Contract and positive or negative yields associated with rolling Underlying Futures Contracts. An excess return index is distinct from a total return index, which, in addition to reflecting those price and roll returns, would also reflect interest on a hypothetical cash position collateralizing the Underlying Futures Contracts.

The closing level of the DJIA Futures Index on any trading day reflects the change in the daily contract price of the Underlying Futures Contract since the immediately preceding trading day. On each quarterly roll day, the closing level of the DJIA Futures Index reflects the change from the daily contract price of the maturing Underlying Futures Contract on the immediately preceding trading day to the daily contract price of the next maturing Underlying Futures Contract on that roll day.

The daily contract price of an Underlying Futures Contract will be the settlement price reported by the Exchange. If the Exchange fails to open due to unforeseen circumstances, such as natural disasters, inclement weather, outages or other events, the DJIA Futures Index uses the prior day’s settlement price. In situations where the Exchange is forced to close early due to unforeseen events, such as computer or electric power failures, weather conditions or other events, S&P Dow Jones calculates the closing level of the DJIA Futures Index based on the settlement prices published by the Exchange or, if no settlement price is available, an S&P Dow Jones index committee (the “**Index Committee**”) will determine the course of action and notifies clients accordingly.

#### Index Governance

The Index Committee maintains the DJIA Futures Index. The Index Committee may revise index policy covering rules for including currencies, the timing of rebalancing or other matters. The Index Committee considers information about changes to the DJIA Futures Index and related matters to be potentially market moving and material. Therefore, all Index Committee discussions are confidential.

The Index Committee reserves the right to make exceptions when applying the methodology of the DJIA Futures Index if the need arises. In any scenario where the treatment differs from the general rules stated in the methodology document of the DJIA Futures Index or supplemental documents, sufficient notice will be provided, whenever possible.

In addition to the daily governance of the DJIA Futures Index and maintenance of its index methodology, at least once within any 12-month period, the Index Committee reviews the methodology to ensure the DJIA Futures Index continues to achieve the stated objectives, and that the data and methodology remain effective. In certain instances, S&P Dow Jones may publish a consultation inviting comments from external parties.

### **License Agreement**

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### **The Underlying Futures Contracts**

E-mini® Dow Jones Industrial Average® futures contracts are U.S. dollar-denominated futures contracts based on the Dow Jones Industrial Average®, traded on the Exchange, representing a contract unit of \$5 *multiplied* by the level of the Dow Jones Industrial Average®, measured in U.S. dollars and cents per index point.

E-mini® Dow Jones Industrial Average® futures contracts are available with expiry months of March, June, September or December, and at any time E-mini® Dow Jones Industrial Average® futures contracts are listed for the nearest four quarters. Trading of E-mini® Dow Jones Industrial Average® futures contracts terminates at 9:30 a.m. Eastern time on the third Friday of the contract month.

The daily settlement prices of the E-mini® Dow Jones Industrial Average® futures contracts are based on trading activity in the relevant contract (and in the case of a lead month also being the expiry month, together with trading activity in lead month-second month spread contracts) on the Exchange during a specified settlement period. The final settlement price of E-mini® Dow Jones Industrial Average® futures contracts is \$5 *times* a special opening quotation of the DJIA based on the opening prices of the component stocks in the Dow Jones Industrial Average®, determined on the final settlement day.

### **Overview of Futures Markets**

Futures contracts are contracts that legally obligate the holder to buy or sell an asset at a predetermined delivery price during a specified future time period. Futures contracts are traded on regulated futures exchanges, in the over-the-counter market and on various types of physical and electronic trading facilities and markets. An exchange-traded futures contract provides for the purchase and sale of a specified type and quantity of an underlying asset or financial instrument during a stated delivery month for a fixed price. A futures contract provides for a specified settlement month in which the cash settlement is made or in which the underlying asset or financial instrument is to be delivered by the seller (whose position is therefore described as “short”) and acquired by the purchaser (whose position is therefore described as “long”).

No purchase price is paid or received on the purchase or sale of a futures contract. Instead, an amount of cash or cash equivalents must be deposited with the broker as “initial margin.” This amount varies based on the requirements imposed by the exchange clearing houses, but it may be lower than 5% of the notional value of the contract. This margin deposit provides collateral for the obligations of the parties to the futures contract.

By depositing margin, which may vary in form depending on the exchange, with the clearing house or broker involved, a market participant may be able to earn interest on its margin funds, thereby increasing the total return that it may realize from an investment in futures contracts.

In the United States, futures contracts are traded on organized exchanges, known as “designated contract markets.” At any time prior to the expiration of a futures contract, a trader may elect to close out its position by taking an opposite position on the exchange on which the trader obtained the position, subject to the availability of a liquid secondary market. This operates to terminate the position and fix the

trader's profit or loss. Futures contracts are cleared through the facilities of a centralized clearing house and a brokerage firm, referred to as a "futures commission merchant," which is a member of the clearing house.

Unlike common equity securities, futures contracts, by their terms, have stated expirations. At a specific point in time prior to expiration, trading in a futures contract for the current delivery month will cease. As a result, a market participant wishing to maintain its exposure to a futures contract on a particular asset or financial instrument with the nearest expiration must close out its position in the expiring contract and establish a new position in the contract for the next delivery month, a process referred to as "rolling." For example, a market participant with a long position in a futures contract expiring in November who wishes to maintain a position in the nearest delivery month will, as the November contract nears expiration, sell the November contract, which serves to close out the existing long position, and buy a futures contract expiring in December. This will "roll" the November position into a December position, and, when the November contract expires, the market participant will still have a long position in the nearest delivery month.

Futures exchanges and clearing houses in the United States are subject to regulation by the Commodity Futures Trading Commission. Exchanges may adopt rules and take other actions that affect trading, including imposing speculative position limits, maximum price fluctuations and trading halts and suspensions and requiring liquidation of contracts in certain circumstances. Futures markets outside the United States are generally subject to regulation by comparable regulatory authorities. The structure and nature of trading on non-U.S. exchanges, however, may differ from this description.

## THE NASDAQ-100 FUTURES EXCESS RETURN™ INDEX

All information contained in this underlying supplement regarding the Nasdaq-100 Futures Excess Return™ Index (the “**NDX Futures Index**”), including, without limitation, its make-up, method of calculation and changes in its components, has been derived from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by, Nasdaq, Inc. (“**Nasdaq**”). The NDX Futures Index is calculated, maintained and published by Nasdaq. Nasdaq has no obligation to continue to publish, and may discontinue the publication of, the NDX Futures Index.

The NDX Futures Index is reported by Bloomberg L.P. under the ticker symbol “NDXNQER.”

The Base Value of the NDX Futures Index was set equal to 100.00 on September 30, 1999, the “Index Base Date.” The NDX Futures Index has been calculated on a live basis since April 1, 2024, the “Index Live Date.”

The NDX Futures Index measures the performance of the nearest maturing quarterly E-mini® Nasdaq-100® futures contracts (Symbol: NQ) (the “**Underlying Futures Contracts**”) trading on the Chicago Mercantile Exchange (the “**Exchange**”). The Underlying Futures Contracts are U.S. dollar-denominated futures contracts based on the Nasdaq-100 Index®. For additional information about the Nasdaq-100 Index®, see “Equity Index Descriptions — The Nasdaq-100 Index®” in this underlying supplement. The NDX Futures Index is calculated from the price change of the Underlying Futures Contracts. The NDX Futures Index is an “excess return” index that is based on price levels of the Underlying Futures Contracts as well as the discount or premium obtained by “rolling” hypothetical positions in the Underlying Futures Contracts as they approach delivery. The NDX Futures Index does not reflect interest earned on hypothetical, fully collateralized contract positions.

### Index Rolling

As each Underlying Futures Contract approaches maturity, it is replaced by the next maturing Underlying Futures Contract in a process referred to as “rolling.” The rolling of the NDX Futures Index occurs quarterly over a three-day rolling period (the “**roll period**”) every March, June, September and December, effective after the close of trading on the fifth, fourth and third business days (each, a “**roll day**”) preceding the last trading date of the maturing Underlying Futures Contract. The number of units over the roll period will change equally each day as illustrated below, *provided* that there is no Index Market Disruption Event (as described under “— Index Market Disruption Events” below) on a roll day (a “**Roll Day Disruption**”).

Roll Period Day	Proportion of Current Contract	Proportion of Next Contract
Day 1	2/3	1/3
Day 2	1/3	2/3
Day 3	0	1

On any scheduled roll day during the roll period, the occurrence of any Index Market Disruption Event below will result in a Roll Day Disruption and an adjustment to the roll period such that no changes to the units of the current or next contract will occur until such time as the Roll Day Disruption is no longer occurring. After the Roll Day Disruption ends, on the next day during the Roll Period, the unit proportions between the current contract and the next contract will “catch up” to where they would have been in the absence of a disruption, as illustrated below.

Roll Period Day	Proportion of Current Contract	Proportion of Next Contract
Day 1*	1	0
Day 2**	1/3	2/3

Day 3	0	1
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\*Disruption occurs on Day 1 of the Roll Period; no changes are made to the proportion of the units of the current contract and the next contract.

\*\*Day 2's proportions are identical to where they would have been in the absence of a disruption on Day 1 of the Roll Period.

#### *Index Market Disruption Events*

Each of the below described events is an “**Index Market Disruption Event**” for the purposes of this description.

- Trading Disruption: Any unscheduled closure of the Exchange; a material suspension, limitation or disruption of trading on the Exchange; a failure of the Exchange to publish the relevant price, level, value or other information; a halt in trading, such as a circuit breaker or other exchange-imposed halt; or any other event that materially affects the ability of market participants to trade, effect transactions in, maintain or unwind positions in that futures contract.
- Exchange Disruption: Any exchange related event that disrupts or impairs the ability of market participants to effect transactions or obtain market values or price discovery of a component used directly or indirectly in the NDX Futures Index.
- Price Failure: Any event that impairs or prevents the ability of Nasdaq to obtain a relevant price, level, rate, value or any other information from an exchange or other source necessary, on a timely basis and in a manner acceptable to Nasdaq, in order to perform the calculation of the NDX Futures Index.
- Inaccurate Data: The price or value of a component that has been calculated by reference to data that, in the determination of the Nasdaq, is inaccurate, incomplete and/or does not adequately reflect the true market price or value of such component.
- Force Majeure: Any event or circumstance (including, without limitation, a systems failure, natural or man-made disaster, act of God, armed conflict, act of terrorism, riot or labor disruption or any similar intervening circumstance, or restrictions due to emergency powers enforced by federal, state or local government agencies), that is beyond the reasonable control of Nasdaq and that Nasdaq determines, in its sole discretion, affects the NDX Futures Index, a component of the NDX Futures Index, any input data required to calculate the NDX Futures Index, or that prevents the ability of Nasdaq to calculate the NDX Futures Index.
- General Moratorium: Nasdaq observes on any day that there has been a declaration of a general moratorium in respect of banking activities in any relevant jurisdiction.

#### **Index Calculations**

The closing level of the NDX Futures Index on any trading day reflects the change in the daily contract price of the Underlying Futures Contract since the immediately preceding Index Calculation Day (defined as each weekday that is not a scheduled holiday according to Nasdaq’s publicly available index holiday schedule). Additionally, on each roll day during the quarterly roll period, the closing level of the NDX Futures Index reflects the proportional change from the daily contract price of the maturing Underlying Futures Contract on the immediately preceding trading day to the daily contract price of the next maturing Underlying Futures Contract on that roll day.

The daily contract price of an Underlying Futures Contract will be the settlement price reported by the Exchange. If an Index Market Disruption Event occurs (as defined under “— Index Rolling — Index Market Disruption Events” above) or is occurring on an Index Calculation Day that Nasdaq determines materially affects the NDX Futures Index, Nasdaq may:

- Delay the calculation of the NDX Futures Index and halt the dissemination of the value of the NDX Futures Index and/or other information relating to the NDX Futures Index until such time, which may be a subsequent Index Calculation Day, that Nasdaq determines that such Index Market Disruption Event is no longer occurring.
- Determine a good faith estimate of any affected or missing input data required to calculate the NDX Futures Index or the value of the NDX Futures Index for such Index Calculation Day or time for such Index Calculation Day.

### **Index Corrections and Recalculations**

Nasdaq reserves the right to recalculate an index at its discretion in the event that settlement prices are amended or upon the occurrence of a missed index methodology event (deviation from what is stated in the methodology document).

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### **The Underlying Futures Contracts**

E-mini® Nasdaq-100® futures contracts are U.S. dollar-denominated futures contracts, based on the Nasdaq-100 Index®, traded on the Exchange, representing a contract unit of \$20.00 *multiplied* by the index level of the Nasdaq-100 Index®, measured in U.S. dollars and cents per index point.

E-mini® Nasdaq-100® futures contracts listed for six consecutive quarters for each March, June, September and December and two additional June contract months and four additional December contract months are available for trading. Trading of the E-mini® Nasdaq-100® futures contracts will terminate at 9:30 a.m. Eastern time on the third Friday of the contract month.

The daily settlement prices of the E-mini<sup>®</sup> Nasdaq-100<sup>®</sup> futures contracts are based on trading activity in the relevant contract (and in the case of a lead month also being the expiry month, together with trading activity in lead month-second month spread contracts) on the Exchange during a specified settlement period. The final settlement price of E-mini<sup>®</sup> Nasdaq-100<sup>®</sup> futures contracts is a special opening quotation of the Nasdaq-100 Index<sup>®</sup> to be determined by Nasdaq based on the Nasdaq Official Opening Price of the component stocks in the Nasdaq-100 Index<sup>®</sup>, determined on the third Friday of the contract month or, if the Nasdaq-100 Index<sup>®</sup> is not scheduled to be published for that day, on the first earlier day for which it is scheduled to be published.

### **Overview of Futures Markets**

Please see “Equity Futures Index Descriptions — The Dow Jones Industrial Average<sup>®</sup> Futures Excess Return Index — Overview of Futures Markets.”

## THE RUSSELL 2000® FUTURES EXCESS RETURN INDEX

All information contained in this underlying supplement regarding the Russell 2000® Futures Excess Return Index (the “**RTY Futures Index**”), including, without limitation, its make-up, method of calculation and changes in its components, has been derived from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by, FTSE International Limited (“**FTSE**”). The RTY Futures Index is calculated by MerQube, Inc. (the “**Index Calculation Agent**”), and maintained and published by FTSE. FTSE has no obligation to continue to publish, and may discontinue the publication of, the RTY Futures Index.

The RTY Futures Index is reported by Bloomberg L.P. under the ticker symbol “RTYFPE.”

The RTY Futures Index has been calculated on a live basis since May 20, 2024, the “Index Live Date.”

The RTY Futures Index measures the performance of the nearest maturing quarterly E-mini® Russell 2000® futures contracts (Symbol: RTY) (with respect to the RTY Futures Index, the “**Underlying Futures Contracts**”) trading on the Chicago Mercantile Exchange (the “**Exchange**”). The Underlying Futures Contracts are U.S. dollar-denominated futures contracts based on the Russell 2000® Index. For additional information about the Russell 2000® Index, see “Equity Index Descriptions — The Russell Indices” in this underlying supplement. The RTY Futures Index is calculated from the price change of the Underlying Futures Contracts. The RTY Futures Index is an “excess return” index that is based on price levels of the Underlying Futures Contracts as well as the discount or premium obtained by “rolling” hypothetical positions in the Underlying Futures Contracts as they approach delivery. The RTY Futures Index does not reflect interest earned on hypothetical, fully collateralized contract positions.

### Index Rolling

As each Underlying Futures Contract approaches maturity, it is replaced by the next maturing Underlying Futures Contract in a process referred to as “rolling.” The rolling of the RTY Futures Index occurs quarterly over a three-day rolling period (the “**roll period**”) every March, June, September and December, effective after the close of trading on the fifth, fourth and third business days (each, a “**roll day**”) preceding the last trading date of the maturing Underlying Futures Contract. The number of units over the roll period will change equally each day as illustrated below, *provided* that no Index Market Disruption Events occurred on any business day during the roll period.

Roll Period Day	Proportion of Current Contract	Proportion of Next Contract
Day 1	2/3	1/3
Day 2	1/3	2/3
Day 3	0	1

If an Index Market Disruption Event occurs on any business day during the roll period that is not the last business day of the roll period, the portion of the roll will be postponed to the first roll business day immediately following that business day.

If an Index Market Disruption Event occurs on the last business day of the roll period, the roll on that business day will not be postponed.

### Index Market Disruption Events

An Index Market Disruption Event can be defined as the occurrence of one or more of the following events if, in the discretion of the Index Calculation Agent, that event is material:

- The Index Calculation Agent observes on any business day that there has been a declaration of a general moratorium in respect of banking activities in any relevant jurisdiction.
- The occurrence of an event that makes it impossible or not reasonably practicable on any business day for the Index Calculation Agent to obtain the value of any Underlying Futures Contract, or any other price or necessary information for purposes of calculating the value of the RTY Futures Index in a manner acceptable to the Index Calculation Agent.
- The administrator of the Underlying Futures Contract fails to announce or publish the level of that Underlying Futures Contract on a business day on which the level of that Underlying Futures Contract was scheduled to be announced or published.
- The occurrence or existence of a lack of, or material decline in, the liquidity in the market for trading of any Underlying Futures Contract on any business day.
- A force majeure event or any event that disrupts or impairs (as determined by the Index Calculation Agent acting in a reasonable manner) the ability of market participants in general to establish, maintain or unwind transactions in, or obtain market values for, futures, forwards, options, swaps or other over-the-counter derivative transactions indirectly included in and/or that may be used for hedging any Underlying Futures Contract.
- A suspension, disruption, absence or material limitation imposed on trading by the Exchange or observed in any related over-the-counter market(s) or otherwise and whether by reason of movements in price exceeding limits permitted by the Exchange or otherwise in the futures, forwards, options, swaps or other over-the-counter derivative transactions indirectly included in and/or that may be used for hedging the RTY Futures Index.

### **Index Calculations**

The closing level of the RTY Futures Index on any trading day reflects the change in the daily contract price of the Underlying Futures Contract since the immediately preceding business day. Additionally, on each roll day during the quarterly roll period, the closing level of the RTY Futures Index reflects the proportional change from the daily contract price of the maturing Underlying Futures Contract on the immediately preceding trading day to the daily contract price of the next maturing Underlying Futures Contract on that roll day.

The daily contract price of an Underlying Futures Contract will be the settlement price reported by the Exchange. If, on any business day, an Index Market Disruption Event occurs or is occurring that the Index Calculation Agent determines, in its sole discretion, materially affects the RTY Futures Index, the Index Calculation Agent may, but not limited to:

- Use the last available closing futures value to calculate and publish the closing level of the RTY Futures Index; and/or
- Defer or suspend the calculation and publication of the closing level of the RTY Futures Index and any other information relating to the RTY Futures Index until the next business day on which that Index Market Disruption Event has ceased.

### **Index Corrections and Recalculations**

FTSE reserves the right to recalculate an index at its discretion in the event that settlement prices are amended or upon the occurrence of a missed index methodology event (deviation from what is stated in the methodology document).

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### **Underlying Futures Contracts**

E-mini® Russell 2000® futures contracts are U.S. dollar-denominated futures contracts based on the Russell 2000® Index, traded on the Exchange, representing a contract unit of \$50.00 *multiplied by* the index level of Russell 2000® Index, measured in U.S. dollars and cents per index point.

E-mini® Russell 2000® futures contracts listed for the nearest five quarters for each March, June, September and December and two additional June contract months and four additional December contract months are available for trading. Trading of the E-mini® Russell 2000® futures contracts will terminate at 9:30 a.m. Eastern time on the third Friday of the contract month.

The daily settlement prices of the E-mini® Russell 2000® futures contracts are based on trading activity in the relevant contract (and in the case of a lead month also being the expiry month, together with trading activity in lead month-second month spread contracts) on the Exchange during a specified settlement period.

### **Overview of Futures Markets**

Please see "Equity Futures Index Descriptions — The Dow Jones Industrial Average® Futures Excess Return Index — Overview of Futures Markets."

## THE S&P 500® FUTURES EXCESS RETURN INDEX

All information contained in this underlying supplement regarding the S&P® 500 Futures Excess Return Index (the “**SPX Futures Index**”), including, without limitation, its make-up, method of calculation and changes in its components, has been derived from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by, S&P Dow Jones Indices LLC (“**S&P Dow Jones**”). The SPX Futures Index is calculated, maintained and published by S&P Dow Jones. S&P Dow Jones has no obligation to continue to publish, and may discontinue the publication of, the SPX Futures Index.

The SPX Futures Index measures the performance of a rolling position in the nearest maturing quarterly E-mini® S&P 500® futures contracts (Symbol: ES) (the “**Underlying Futures Contracts**”) trading on the Chicago Mercantile Exchange (the “**Exchange**”). E-mini® S&P 500® futures contracts are U.S. dollar-denominated futures contracts based on the S&P 500® Index. For more information about the S&P 500® Index, please see “Equity Index Descriptions — The S&P U.S. Indices” in this underlying supplement. The SPX Futures Index is reported by Bloomberg L.P. under the ticker symbol “SPXFP.”

### Index Rolling

As each Underlying Futures Contract approaches maturity, it is replaced by the next maturing Underlying Futures Contract in a process referred to as “rolling.” The rolling of the SPX Futures Index occurs quarterly over a one-day rolling period (the “**roll day**”) every March, June, September and December, effective after the close of trading five business days preceding the last trading date of the maturing Underlying Futures Contract, subject to adjustment in the case of holidays or market disruptions.

### Index Calculation

The SPX Futures Index is an excess return index, meaning that its performance is based solely on changes in the daily contract price of its Underlying Futures Contract and positive or negative yields associated with rolling Underlying Futures Contracts. An excess return index is distinct from a total return index, which, in addition to reflecting those price and roll returns, would also reflect interest on a hypothetical cash position collateralizing the Underlying Futures Contracts.

The closing level of the SPX Futures Index on any trading day reflects the change in the daily contract price of the Underlying Futures Contract since the immediately preceding trading day. On each quarterly roll day, the closing level of the SPX Futures Index reflects the change from the daily contract price of the maturing Underlying Futures Contract on the immediately preceding trading day to the daily contract price of the next maturing Underlying Futures Contract on that roll day.

The daily contract price of an Underlying Futures Contract will be the settlement price reported by the Exchange. If the Exchange fails to open due to unforeseen circumstances, such as natural disasters, inclement weather, outages or other events, the SPX Futures Index uses the prior day’s settlement price. In situations where the Exchange is forced to close early due to unforeseen events, such as computer or electric power failures, weather conditions or other events, S&P Dow Jones calculates the closing level of the SPX Futures Index based on the settlement prices published by the Exchange or, if no settlement price is available, an S&P Dow Jones index committee (the “**Index Committee**”) will determine the course of action and notifies clients accordingly.

### Index Governance

The Index Committee maintains the SPX Futures Index. The Index Committee may revise index policy covering rules for including currencies, the timing of rebalancing or other matters. The Index Committee considers information about changes to the SPX Futures Index and related matters to be potentially market moving and material. Therefore, all Index Committee discussions are confidential.

The Index Committee reserves the right to make exceptions when applying the methodology of the SPX Futures Index if the need arises. In any scenario where the treatment differs from the general rules

stated in the methodology document of the SPX Futures Index or supplemental documents, sufficient notice will be provided, whenever possible.

In addition to the daily governance of the SPX Futures Index and maintenance of its index methodology, at least once within any 12-month period, the Index Committee reviews the methodology to ensure the SPX Futures Index continues to achieve the stated objectives, and that the data and methodology remain effective. In certain instances, S&P Dow Jones may publish a consultation inviting comments from external parties.

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## **The Underlying Futures Contracts**

E-mini® S&P 500® futures contracts are U.S. dollar-denominated futures contracts based on the S&P 500® Index, traded on the Exchange, representing a contract unit of \$50 *multiplied by* the level of the S&P 500® Index, measured in U.S. dollars and cents per index point.

E-mini® S&P 500® futures contracts are available with expiry months of March, June, September or December, and at any time E-mini® S&P 500® futures contracts are listed for the nearest 21 quarters.

Trading of E-mini® S&P 500® futures contracts terminates at 9:30 a.m. Eastern time on the third Friday of the contract month.

The daily settlement prices of the E-mini® S&P 500® futures contracts are based on trading activity in the relevant contract (and in the case of a lead month also being the expiry month, together with trading activity in lead month-second month spread contracts) on the Exchange during a specified settlement period. The final settlement price of E-mini® S&P 500® futures contracts is based on the opening prices of the component stocks in the S&P 500® Index, determined on the third Friday of the contract month.

### **Overview of Futures Markets**

Please see “Equity Futures Index Descriptions — The Dow Jones Industrial Average® Futures Excess Return Index — Overview of Futures Markets.”

## COMMODITY INDEX DESCRIPTIONS

### THE BLOOMBERG COMMODITY INDICES

All information contained in this underlying supplement regarding the Bloomberg Commodity Index<sup>SM</sup>, its single-commodity sub-indices and the forward-month version of the Bloomberg Commodity Index<sup>SM</sup> and its single-commodity sub-indices (each, a “**Bloomberg Commodity Index**” and collectively, the “**Bloomberg Commodity Indices**”), including, without limitation, their make-up, methods of calculation and changes in their components, has been derived from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by, Bloomberg Index Services Limited (“**BISL**” and, collectively with its affiliates, “**Bloomberg**”). Bloomberg is not involved in the offer of the notes in any way and has no obligation to consider your interests as a holder of the notes. Bloomberg has no obligation to continue to publish, and may discontinue publication of, the Bloomberg Commodity Indices at any time in its sole discretion.

The Bloomberg Commodity Index<sup>SM</sup> is published by Bloomberg L.P. under the ticker symbols “BCOM” for the excess return version and “BCOMTR” for the total return version.

The Bloomberg Commodity Index<sup>SM</sup> was created by AIG International Inc in 1998, acquired by UBS Securities LLC in May 2009, administered by Bloomberg starting in July 2014, and later acquired by Bloomberg in September 2020.

The Bloomberg Commodity Index<sup>SM</sup> is designed to be a liquid and diversified benchmark for commodity investments. The Bloomberg Commodity Index<sup>SM</sup> provides broad-based exposure to commodities and no single commodity or sector dominates the Bloomberg Commodity Index<sup>SM</sup>. The Bloomberg Commodity Index<sup>SM</sup> is currently composed of the prices of twenty-five exchange-traded futures contracts on physical commodities. A futures contract is a bilateral agreement providing for the purchase and sale of a specified type and quantity of a commodity or financial instrument during a stated delivery month for a fixed price. For a general description of the commodity futures markets, see “The Commodity Futures Markets” below. The commodities included in the Bloomberg Commodity Index<sup>SM</sup> for 2026 are as follows: aluminum, cocoa, coffee, copper, corn, cotton, crude oil (WTI and Brent), gold, lead, lean hogs, live cattle, low sulphur gas oil, natural gas, nickel, reformulated gasoline blendstock for oxygen blending gasoline (“**RBOB gasoline**”), silver, soybean meal, soybean oil, soybeans, sugar, ultra-low sulphur diesel (“**ULS diesel**”), wheat (Chicago and KC HRW) and zinc. The Bloomberg Commodity Index<sup>SM</sup> tracks futures contracts that trade on the Chicago Board of Trade (“**CBOT**”), the Chicago Mercantile Exchange (“**CME**”), the Commodities Exchange division of the CME Group (“**COMEX**”), the London Metals Exchange (“**LME**”), the New York Mercantile Exchange (“**NYMEX**”), ICE Futures Europe and ICE Futures U.S. The component weightings are determined primarily based on liquidity data, which is the relative amount of trading activity of a particular commodity, and U.S.-dollar weighted production data, which is used to measure the importance of a commodity to the world economy.

The single-commodity sub-indices of the Bloomberg Commodity Index<sup>SM</sup> follow the methodology of the Bloomberg Commodity Index, except that the calculation of each single-commodity sub-index utilizes the prices of the relevant futures contracts (listed under “— Designated Contracts for Each Commodity”) and the relevant Commodity Index Multiplier (determined as described under “— Commodity Index Multipliers”). The single-commodity sub-indices of the Bloomberg Commodity Index<sup>SM</sup> are published by Bloomberg L.P. If the notes are linked in whole or in part to a single-commodity sub-index of the Bloomberg Commodity Index, the ticker symbol will be provided in the relevant terms supplement.

BISL also publishes forward-month versions of the Bloomberg Commodity Index<sup>SM</sup> and its single-commodity sub-indices that track longer-dated commodity futures contracts. The Bloomberg Commodity Index 3 Month Forward<sup>SM</sup> follows the methodology of the Bloomberg Commodity Index, except that the futures contracts used for calculating the Bloomberg Commodity Index 3 Month Forward<sup>SM</sup> are advanced, as compared to the Bloomberg Commodity Index, such that the delivery months for the reference contracts are later than those of the corresponding reference contracts used for the Bloomberg Commodity Index. The Bloomberg Commodity Index 3 Month Forward<sup>SM</sup> is published by Bloomberg L.P. under the ticker symbols “BCOMF3” for the excess return version and “BCOMF3T” for the total return version. The forward-month single-commodity sub-indices of the Bloomberg Commodity Index<sup>SM</sup> follow

the methodology of the Bloomberg Commodity Index, except that the calculation of each forward-month single-commodity sub-index utilizes the prices of the relevant futures contracts (as listed under “— Designated Contracts for Each Commodity”) and the relevant Commodity Index Multiplier (determined as described under “— Commodity Index Multipliers”). In addition, the futures contracts used for calculating the forward-month single-commodity sub-indices are advanced, as compared to the futures contracts included in the Bloomberg Commodity Index, such that the delivery months for the reference contracts are later than those of the corresponding reference contracts used for the single-commodity sub-indices. The forward-month single-commodity sub-indices of the Bloomberg Commodity Index<sup>SM</sup> are published by Bloomberg L.P. If the notes are linked in whole or in part to a forward-month single-commodity sub-index of the Bloomberg Commodity Index, the ticker symbol will be provided in the relevant terms supplement.

BISL publishes both a total return version and excess return version of each of the Bloomberg Commodity Indices. The total return version of each Bloomberg Commodity Index<sup>SM</sup> reflects the returns on a fully collateralized investment in the excess return version of such Bloomberg Commodity Index. Accordingly, the total return version of each Bloomberg Commodity Index<sup>SM</sup> combines the returns of the relevant excess return version with returns on cash collateral invested in Treasury Bills. The cash collateral returns are calculated using the most recent weekly auction high rate for 13-week (3 Month) U.S. Treasury Bills, as published by the Bureau of the Public Debt of the U.S. Treasury (or any successor source). Weekly auction high rates are generally published once each week on Monday. The securities may be linked to the excess return or the total return version of the Bloomberg Commodity Indices, as specified in the relevant terms supplement.

### **Benchmark Governance, Audit and Review Structure**

BISL uses three primary committees to provide overall governance and oversight of its benchmark administration activities:

The Product & Operations Committee (“**POC**”) is responsible for the first line of control over the creation, design, production and dissemination of benchmarks administered by BISL.

The oversight function is provided by Bloomberg’s Benchmark Oversight Committee (“**BOC**”). The BOC is independent of the POC and is responsible for reviewing and challenging BISL Board of Directors (“**Board**”) and the POC regarding relevant aspects of the provision of benchmarks by BISL. The BOC has been established by Board and meets at least quarterly. It is composed of at least three voting members, including a chair, who are not directly involved in the provision of any BISL benchmark. Membership of the BOC is based on a combination of seniority, global outlook and diverse experience across Bloomberg L.P.’s business and operations.

The Risk Committee (“**RiskCo**”) advises the Board, the POC and the BOC on BISL’s overall risk appetite, tolerance and strategy and oversees BISL’s risk exposure and risk strategy.

As described in more detail below, the composition of the Bloomberg Commodity Index<sup>SM</sup> is rebalanced by BISL each year pursuant to the established procedures by index managers operating within the POC governance body under the oversight of the BOC oversight function. Any material deviations or changes from established procedures are subject to review by those bodies. In addition, to the extent practicable, BISL may solicit stakeholder feedback. Once approved, the new composition of the Bloomberg Commodity Index<sup>SM</sup> is publicly announced and takes effect in the January immediately following the announcement.

### **Four Main Principles Guiding the Creation of the Bloomberg Commodity Index<sup>SM</sup>**

The Bloomberg Commodity Index<sup>SM</sup> was created using the following four main principles:

- **Economic Significance.** A commodity index should fairly represent the importance of a diversified group of commodities to the world economy. To achieve a fair representation, the Bloomberg Commodity Index<sup>SM</sup> uses both liquidity data and U.S. dollar-weighted production data in determining the relative quantities of included commodities. The Bloomberg Commodity Index<sup>SM</sup> primarily relies on liquidity data, or the relative amount of trading activity of a particular

commodity, as an important indicator of the value placed on that commodity by financial and physical market participants. The Bloomberg Commodity Index<sup>SM</sup> also relies on production data as a useful measure of the importance of a commodity to the world economy. Production data alone, however, may underestimate the economic significance of storable commodities (e.g., gold) at the expense of relatively non-storable commodities (e.g., live cattle). Production data alone may also underestimate the investment value that financial market participants place on certain commodities and/or the amount of commercial activity that is centered on various commodities. Accordingly, production statistics alone do not necessarily provide as accurate a reflection of economic importance as the pronouncements of the markets themselves. The Bloomberg Commodity Index<sup>SM</sup> thus relies on data that is both endogenous to the futures markets (liquidity) and exogenous to the futures markets (production) in determining relative weightings.

- **Diversification.** A second major goal of the Bloomberg Commodity Index<sup>SM</sup> is to provide diversified exposure to commodities as an asset class. Disproportionate weighting of any particular commodity or sector increases volatility and negates the concept of a broad-based commodity index. Instead of diversified commodities exposure, the investor is unduly subjected to micro-economic shocks in one commodity or sector. As described further below, diversification rules have been established and are applied annually. Additionally, the Bloomberg Commodity Index<sup>SM</sup> is rebalanced annually on a price-percentage basis in order to maintain diversified commodities exposure over time.
- **Continuity.** A third goal of the Bloomberg Commodity Index<sup>SM</sup> is to be responsive to the changing nature of commodity markets in a manner that does not completely reshape the character of the Bloomberg Commodity Index<sup>SM</sup> from year to year. The Bloomberg Commodity Index<sup>SM</sup> is intended to provide a stable benchmark, so that end-users may be reasonably confident that historical performance data (including such diverse measures as correlation, spot yield, roll yield and volatility) is based on a structure that bears some resemblance to both the current and future composition of the Bloomberg Commodity Index<sup>SM</sup>.
- **Liquidity.** Another goal of the Bloomberg Commodity Index<sup>SM</sup> is to provide a highly liquid index, suitable for institutional investment. The explicit inclusion of liquidity as a weighting factor helps to ensure that the Bloomberg Commodity Index<sup>SM</sup> can accommodate substantial investment flows. The liquidity of an index not only affects transaction costs associated with current investments, but may also affect the reliability of historical price performance data. To the extent that market inefficiencies may result from substantial inflows of investment capital, these inefficiencies and corresponding distortions in index performance will be minimized by weighting distributions that more closely mirror actual liquidity in the markets.

These principles represent goals of the Bloomberg Commodity Index<sup>SM</sup>, its creators and owners and there can be no assurance that these goals will be reached by BISL.

### **Composition of the Bloomberg Commodity Index<sup>SM</sup>**

#### *Commodities Available for Inclusion in the Bloomberg Commodity Index<sup>SM</sup>*

The commodities that have been selected for possible inclusion in the Bloomberg Commodity Index<sup>SM</sup> are believed by BISL to be sufficiently significant to the world economy to merit consideration for inclusion in the Bloomberg Commodity Index<sup>SM</sup> and are tradable through a qualifying related futures contract (a “**Designated Contract**”). With the exception of several metals contracts (aluminum, lead, tin, nickel and zinc) that trade on the LME and the contracts for Brent crude oil and low sulphur gas oil, which both trade on ICE Futures Europe, each of the potential commodities is currently the subject of at least one futures contract that trades on a U.S. exchange.

The 25 commodities currently eligible for inclusion in the Bloomberg Commodity Index<sup>SM</sup> are as follows: aluminum, cocoa, coffee, copper, corn, cotton, crude oil, gold, lead, lean hogs, live cattle, low sulphur gas oil, natural gas, nickel, platinum, RBOB gasoline, silver, soybean meal, soybean oil, soybeans, sugar, tin, ULS diesel, wheat and zinc.

The 23 commodities selected to be included in the Bloomberg Commodity Index<sup>SM</sup> (each, an “**Index Commodity**” and collectively, the “**Index Commodities**”) for 2026 are as follows: aluminum, cocoa, coffee, copper, corn, cotton, crude oil, gold, lead, lean hogs, live cattle, low sulphur gas oil, natural gas, nickel, RBOB gasoline, silver, soybean meal, soybean oil, soybeans, sugar, ULS diesel, wheat and zinc.

#### *Designated Contracts for Each Commodity*

One or more futures contracts known as a Designated Contract is selected by BISL for each of the 25 commodities eligible for inclusion in the Bloomberg Commodity Index. Historically, through and including the composition of the Bloomberg Commodity Index<sup>SM</sup> for 2026, BISL has chosen for each commodity one Designated Contract that is traded in North America and denominated in U.S. dollars, with the exception of several LME contracts, which are traded in London, as well as certain energy contracts. In particular, for crude oil, two Designated Contracts have been selected starting in 2012, and for wheat, two Designated Contracts that are traded in North America have been selected starting in 2013. It is possible that BISL will in the future select more than one Designated Contract for additional commodities or may select Designated Contracts that are traded outside of the United States or in currencies other than the U.S. dollar. For example, in the event that changes in regulations concerning position limits materially affect the ability of market participants to replicate the Bloomberg Commodity Index<sup>SM</sup> in the underlying futures markets, it may become appropriate to include multiple Designated Contracts for one or more commodities (in addition to crude oil and wheat) to enhance liquidity. The termination or replacement of a futures contract on an established exchange occurs infrequently. If a Designated Contract were to be terminated or replaced, a comparable futures contract would be selected, if available, to replace the Designated Contract.

#### *Commodity Groups*

For purposes of applying the diversification rules discussed above and below, the commodities available for inclusion in the Bloomberg Commodity Index<sup>SM</sup> are assigned to commodity groups.

The commodity groups, and the commodities included in each group are currently as follows:

<u>Commodity Group</u>	<u>Commodity</u>
Energy	Crude Oil (WTI and Brent)
	Natural Gas
	RBOB Gasoline
	Low Sulphur Gas Oil
	ULS Diesel
Grains	Corn
	Soybeans
	Soybean Oil
	Soybean Meal
	Wheat (Chicago and KC HRW)
Industrial Metals	Aluminum
	Copper
	Lead
	Nickel
	Tin
Precious Metals	Zinc
	Gold
	Platinum
	Silver

<b>Commodity Group</b>	<b>Commodity</b>
Softs	Cocoa
	Coffee
	Cotton
	Sugar
Livestock	Live Cattle
	Lean Hogs

*2026 Bloomberg Commodity Index<sup>SM</sup> Target Weights Breakdown by Commodity and Commodity Group*

The target weights for the commodities included in the Bloomberg Commodity Index<sup>SM</sup> and the target weights for the commodity groups for 2026 are as follows:

<b>Commodity Group</b>	<b>Commodity</b>	<b>Target Weight (approximate)</b>	<b>Target Group Weight (approximate)</b>
Energy	WTI Crude Oil	6.64%	29.44%
	Brent Crude Oil	8.36%	
	Natural Gas	7.20%	
	RBOB Gasoline	2.15%	
	Low Sulphur Gas Oil	2.89%	
	ULS Diesel	2.19%	
Grains	Corn	5.53%	21.15%
	Soybeans	5.36%	
	Soybean Oil	2.82%	
	Soybean Meal	2.93%	
	Wheat (Chicago)	2.72%	
	Wheat (KC HRW)	1.79%	
Industrial Metals	Aluminum	3.97%	15.76%
	Copper	6.36%	
	Nickel	2.23%	
	Zinc	2.25%	
	Lead	0.95%	
Precious Metals	Gold	14.90%	18.84%
	Silver	3.94%	
Softs	Sugar	2.95%	9.17%
	Coffee	2.91%	
	Cocoa	1.71%	
	Cotton	1.59%	
Livestock	Live Cattle	3.86%	5.64%
	Lean Hogs	1.78%	

Source: Bloomberg

*Determination of Relative Weightings*

The first step in constructing the Bloomberg Commodity Index<sup>SM</sup> is to determine the relative liquidity and production percentages. The relative weightings of the Index Commodities are determined annually according to both liquidity and U.S. dollar-adjusted production data in 2/3 and 1/3 shares, respectively. Each year, for each Designated Contract selected as a reference contract for a commodity designated for potential inclusion in the Bloomberg Commodity Index<sup>SM</sup>, liquidity is measured by the Commodity Liquidity Percentage (“**CLP**”) and production by the Commodity Production Percentage (“**CPP**”). The CLP for each Designated Contract is determined by taking a five-year average of the product of trading volume and the historical U.S. dollar value of that Designated Contract, and dividing the result by the sum of such products for all Designated Contracts. The CPP is determined for each commodity by taking a five-year

average of annual world production figures, adjusted by the historical U.S. dollar value of the applicable Designated Contract, and dividing the result by the sum of such production figures for all the commodities that were designated for potential inclusion in the Bloomberg Commodity Index. The CLP and the CPP are then combined (using a ratio of 2:1) to establish the Commodity Index Percentage (“**CIP**”) for each commodity. This CIP is then adjusted in accordance with the diversification rules in order to determine the commodities that will be included in the Bloomberg Commodity Index<sup>SM</sup> and their respective percentage weights.

For primary commodities that appear in the Bloomberg Commodity Index<sup>SM</sup> along with their derivatives (e.g., crude oil, together with ULS diesel, RBOB gasoline and low sulphur gas oil), the CPPs within that group of commodities are reassigned among the primary commodity and its derivative commodities to eliminate the double-counting of production figures for the primary commodity that would otherwise occur if no adjustment were made. The same process is applied when more than one Designated Contract has been selected for a particular commodity.

#### *Diversification Rules*

The Bloomberg Commodity Index<sup>SM</sup> is designed to provide diversified exposure to commodities as an asset class. To ensure that no single commodity or commodity sector dominates the Bloomberg Commodity Index<sup>SM</sup>, the following diversification rules are applied to the annual reweighting and rebalancing of the Bloomberg Commodity Index<sup>SM</sup> as of January of the applicable year:

- No single commodity (e.g., natural gas or silver) may constitute over 15% of the Bloomberg Commodity Index<sup>SM</sup>.
- No single commodity, together with its derivatives (e.g., WTI Crude Oil and Brent Crude Oil, together with ULS Diesel, Unleaded Gas and Low Sulfur Gas Oil), may constitute more than 25% of the Bloomberg Commodity Index<sup>SM</sup>,
- No related group of commodities (e.g., energy, precious metals, livestock or grains) may constitute more than 33% of the Bloomberg Commodity Index<sup>SM</sup>.
- No single commodity (e.g., natural gas or silver) may constitute less than 2% of the Bloomberg Commodity Index<sup>SM</sup>, as liquidity allows.

The last rule helps to increase the diversification of the Bloomberg Commodity Index<sup>SM</sup> by giving even the smallest commodity within the basket a reasonably significant weight. Commodities with small weights initially may have their weights increased to higher than 2% by prior steps.

Following the annual reweighting and rebalancing of the Bloomberg Commodity Index<sup>SM</sup> in January, the percentage of any single commodity or group of commodities at any time prior to the next reweighting or rebalancing will fluctuate and may exceed or be less than the percentages initially established.

#### *Commodity Index Multipliers*

Following application of the diversification rules discussed above, CIPs are incorporated into the Bloomberg Commodity Index<sup>SM</sup> by calculating the new unit weights for each Designated Contract. Near the beginning of each new calendar year, the CIPs, along with the settlement prices determined on that date for Designated Contracts included in the Bloomberg Commodity Index<sup>SM</sup>, are used to determine a Commodity Index Multiplier (“**CIM**”) for each Designated Contract. This CIM is used to achieve the percentage weightings of the Designated Contracts, in U.S. dollar terms, indicated by their respective CIPs. After the CIMs are calculated, they remain fixed throughout the year. As a result, the observed price percentage of each Designated Contract will float throughout the year, until the CIMs are reset the following year based on new CIPs.

#### **Calculation of the Bloomberg Commodity Index<sup>SM</sup>**

The excess return version of the Bloomberg Commodity Index<sup>SM</sup> is calculated by BISL by applying the impact of the changes to the futures prices of commodities included in the Bloomberg Commodity Index<sup>SM</sup> (based on their relative weightings).

Once the CIMs are determined as discussed above, the calculation of the excess return version of the Bloomberg Commodity Index<sup>SM</sup> is a mathematical process whereby the CIMs for the Index Commodities are multiplied by the prices in U.S. dollars for the applicable Designated Contracts. These products are then summed. The percentage change in this sum is then applied to the prior Bloomberg Commodity Index<sup>SM</sup> excess return level to calculate the new Bloomberg Commodity Index<sup>SM</sup> excess return level.

The total return version of the Bloomberg Commodity Index<sup>SM</sup> is calculated by BISL by applying the impact of the changes in the level of the excess return version of the Bloomberg Commodity Index<sup>SM</sup> and adding interest that could be earned on funds committed to the trading of the underlying futures contracts. Once the level of the excess return version of the Bloomberg Commodity Index<sup>SM</sup> is determined as discussed above, the daily return on a 13-week (3-month) T-bill is added to the percentage change in the excess return version of the Bloomberg Commodity Index<sup>SM</sup> (as compared with the prior Bloomberg Commodity Index<sup>SM</sup> excess return level) to obtain the total return. The total return is then applied to the prior Bloomberg Commodity Index<sup>SM</sup> total return level to calculate the new Bloomberg Commodity Index<sup>SM</sup> total return level.

#### *The Bloomberg Commodity Index<sup>SM</sup> is a Rolling Index*

The Bloomberg Commodity Index<sup>SM</sup> is composed of futures contracts on physical commodities. Unlike equities, which typically entitle the holder to a continuing stake in a corporation, commodity futures contracts normally specify a certain date for the delivery of the underlying physical commodity. In order to avoid delivering the underlying physical commodities and to maintain exposure to the underlying physical commodities, futures contracts on physical commodities specifying delivery on a nearby date must be sold and futures contracts on physical commodities that have not yet reached the delivery period must be purchased. The rollover for each contract occurs over a period of five Index Business Days each month according to a pre-determined schedule. This process is known as “rolling” a futures position. The Bloomberg Commodity Index<sup>SM</sup> is a “rolling index.”

With respect to the Bloomberg Commodity Index<sup>SM</sup>, an “**Index Business Day**” is any day on which the sum of the CIPs for those Index Commodities that are open for trading is greater than 50%. For purposes of this definition, the CIPs used during any calendar year are those calculated in the preceding year and applied on the CIM Determination Date for that year; provided however, that on any day during such calendar year falling prior to or on the CIM Determination Date, the preceding year’s CIPs will be used for purposes of determining the existence of an Index Business Day.

#### **Bloomberg Commodity Index<sup>SM</sup> Calculation Disruption Events**

From time to time, disruptions can occur in trading futures contracts on various commodity exchanges. The daily calculation of the Bloomberg Commodity Index<sup>SM</sup> may be adjusted in the event that BISL determines that any of the following index calculation disruption events exists:

- the termination or suspension of, or material limitation or disruption in the trading of any futures contract used in the calculation of the Bloomberg Commodity Index<sup>SM</sup> on that day;
- the settlement price of any futures contract used in the calculation of the Bloomberg Commodity Index<sup>SM</sup> reflects the maximum permitted price change from the previous day’s settlement price;
- the failure of an exchange to publish official settlement prices for any futures contract used in the calculation of the Bloomberg Commodity Index<sup>SM</sup>; or
- with respect to any futures contract used in the calculation of the Bloomberg Commodity Index<sup>SM</sup> that trades on the LME, an Index Business Day on which the LME is not open for trading.

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This underlying supplement and the relevant terms supplement relate only to the notes and does not relate to the exchange-traded physical commodities underlying any of the Bloomberg Commodity Index<sup>SM</sup> components. Purchasers of the notes should not conclude that the inclusion of a futures contract in the Bloomberg Commodity Index<sup>SM</sup> is any form of investment recommendation of the futures contract or the underlying exchange-traded physical commodity by Bloomberg or any of its subsidiaries or affiliates. The information in this underlying supplement regarding the Bloomberg Commodity Index<sup>SM</sup> components has been derived solely from publicly available documents. None of Bloomberg or any of its subsidiaries or affiliates has made any due diligence inquiries with respect to the Bloomberg Commodity Index<sup>SM</sup> components in connection with the notes. None of Bloomberg or any of its subsidiaries or affiliates makes any representation that these publicly available documents or any other publicly available information regarding the Bloomberg Commodity Index<sup>SM</sup> components, including without limitation a description of factors that affect the prices of such components, are accurate or complete.

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**The Commodity Futures Markets**

Futures contracts on physical commodities are traded on regulated futures exchanges, in the over-the-counter market and on various types of physical and electronic trading facilities and markets. As of the date of this underlying supplement, all of the contracts included in the Bloomberg Commodity Index<sup>SM</sup> described in this underlying supplement are exchange-traded futures contracts. An exchange-traded futures contract provides for the purchase and sale of a specified type and quantity of a commodity or financial instrument during a stated delivery month for a fixed price. A futures contract provides for a specified settlement month in which the cash settlement is made or in which the commodity or financial instrument is to be delivered by the seller (whose position is therefore described as “short”) and acquired by the purchaser (whose position is therefore described as “long”).

No purchase price is paid or received on the purchase or sale of a futures contract. Instead, an amount of cash or cash equivalents must be deposited with the broker as “initial margin.” This amount varies based on the requirements imposed by the exchange clearing houses, but it may be lower than 5% of the notional value of the contract. This margin deposit provides collateral for the obligations of the parties to the futures contract.

By depositing margin, which may vary in form depending on the exchange, with the clearing house or broker involved, a market participant may be able to earn interest on its margin funds, thereby increasing the total return that it may realize from an investment in futures contracts.

In the United States, futures contracts are traded on organized exchanges, known as “designated contract markets” at a specified point in time prior to expiration. At any time prior to the expiration of a futures contract, a trader may elect to close out its position by taking an opposite position on the exchange on which the trader obtained the position, subject to the availability of a liquid secondary market. This operates to terminate the position and fix the trader’s profit or loss. Futures contracts are cleared through the facilities of a centralized clearing house and a brokerage firm, referred to as a “futures commission merchant,” which is a member of the clearing house.

Unlike equity securities, commodities or currencies, futures contracts, by their terms, have stated expirations at a specified point in time prior to expiration at a specified point in time prior to expiration. At a specific point in time prior to expiration, trading in a futures contract for the current delivery month will cease. As a result, a market participant wishing to maintain its exposure to a futures contract on a particular commodity or financial instrument with the nearest expiration must close out its position in the expiring contract and establish a new position in the contract for the next delivery month, a process referred to as “rolling.” For example, a market participant with a long position in a futures contract expiring in November who wishes to maintain a position in the nearest delivery month will, as the November contract nears expiration, sell the November contract, which serves to close out the existing long position, and buy a futures contract expiring in December. This will “roll” the November position into a December position, and, when the November contract expires, the market participant will still have a long position in the nearest delivery month.

Futures exchanges and clearing houses in the United States are subject to regulation by the Commodity Futures Trading Commission. Exchanges may adopt rules and take other actions that affect trading, including imposing speculative position limits, maximum price fluctuations and trading halts and suspensions and requiring liquidation of contracts in certain circumstances.

Futures markets outside the United States are generally subject to regulation by comparable regulatory authorities. The structure and nature of trading on non-U.S. exchanges, however, may differ from this description.

## THE S&P GSCI® INDICES

All information contained in this underlying supplement regarding the S&P GSCI® Indices (as defined below), including, without limitation, their make-up, method of calculation and changes in their components, has been derived from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by, S&P Dow Jones Indices LLC (“**S&P Dow Jones**”). The S&P GSCI® Indices are calculated, maintained and published by S&P Dow Jones. S&P Dow Jones acquired the rights to the S&P GSCI® Indices from Goldman, Sachs & Co. in 2007. Goldman, Sachs & Co. established and began calculating the S&P GSCI® in April 1991. The former name of the S&P GSCI® was the Goldman Sachs Commodity Index, or GSCI®. S&P Dow Jones has no obligation to continue to publish, and may discontinue publication of, any S&P GSCI® Index.

The notes may be linked in whole or in part to the performance of the S&P GSCI® Index (“**S&P GSCI®**”), the S&P GSCI® Light Energy Index or certain of the S&P GSCI®’s commodity sector sub-indices: the S&P GSCI® Agriculture Index, the S&P GSCI® Energy Index, the S&P GSCI® Industrial Metals Index, the S&P GSCI® Livestock Index and the S&P GSCI® Precious Metals Index (each a “**S&P GSCI® Sector Index**,” and together, the “**S&P GSCI® Sector Indices**”), or the S&P GSCI®’s single commodity sub-indices (each a “**S&P GSCI® Single Component Index**,” and collectively, the “**S&P GSCI® Single Component Indices**”). The S&P GSCI® Single Component Indices and S&P GSCI® Sector Indices are referred to in this underlying supplement collectively as the “**S&P GSCI® Component Indices**,” and together with the S&P GSCI® and the S&P GSCI® Light Energy Index, as the “**S&P GSCI® Indices**,” and each, an “**S&P GSCI® Index**.” If the notes are linked to any S&P GSCI® Single Component Index, any relevant disclosure for such S&P GSCI® Single Component Index will be provided in the relevant terms supplement.

S&P Dow Jones publishes excess return and total return versions of each of the S&P GSCI® Indices. The relevant terms supplement will specify whether the notes are linked to the excess return or total return version of the S&P GSCI® Indices. The excess return versions of the S&P GSCI® Indices are based on price levels of the futures contracts included in that S&P GSCI® Index as well as the discount or premium obtained by “rolling” hypothetical positions in those contracts forward as they approach delivery. The total return versions of the S&P GSCI® Indices incorporate the returns of the excess return versions, except that the total return versions also reflect interest earned on hypothetical, fully collateralized contract positions on the included commodities.

The S&P GSCI® is an index on a world production-weighted basket of principal non-financial commodities (*i.e.*, physical commodities) that satisfy specified criteria. The only commodities represented in the S&P GSCI® are those physical commodities on which active and liquid contracts are traded on trading facilities in major industrialized countries. The commodities included in the S&P GSCI® are weighted, on a production basis, to reflect the relative significance (in the view of S&P Dow Jones, as described below) of such commodities to the world economy. The fluctuations in the value of the S&P GSCI® are intended generally to correlate with changes in the prices of such physical commodities in global markets. The S&P GSCI® has been normalized such that its hypothetical level on January 2, 1970 was 100. Futures contracts on the S&P GSCI®, and options on such futures contracts, are currently listed for trading on the Chicago Mercantile Exchange.

The S&P GSCI® Light Energy Index is composed of the same commodity futures contracts as the S&P GSCI® but with those weights for contracts in the energy sector having been divided by 4. Because the weights of energy-related S&P GSCI® commodities are reduced in the S&P Light Energy Index relative to the S&P GSCI®, the relative weights of the remaining S&P GSCI® commodities are necessarily increased. As a result, although the S&P GSCI® Light Energy Index contains all of the S&P GSCI® commodities that are included in the S&P GSCI®, it is not world-production weighted in the same manner as the S&P GSCI® and may not serve as a benchmark for changes in inflation or other economic factors. In particular, because of the significance of energy-related commodities to the world economy, a significant reduction in the weights of these commodities in the S&P GSCI® Light Energy Index will substantially limit the effect of changes in energy prices on the S&P GSCI® Light Energy Index. Increases in the prices of energy commodities, therefore, will not increase the level of the S&P GSCI® Light Energy Index to the same extent as the S&P GSCI®.

The S&P GSCI® Agriculture Index is a world production-weighted index of certain agricultural commodities in the world economy, including wheat (Chicago and Kansas), corn, soybeans, cotton, sugar, coffee and cocoa.

The S&P GSCI® Energy Index is a world production-weighted index of certain energy commodities in the world economy, including crude oil, Brent crude oil, RBOB gasoline, heating oil, gasoil and natural gas.

The S&P GSCI® Industrial Metals Index is a world production-weighted index of certain industrial metals commodities in the world economy, including aluminum, copper, lead, nickel and zinc.

The S&P GSCI® Livestock Index is a world production-weighted index of certain livestock commodities in the world economy, including lean hogs, live cattle and feeder cattle.

The S&P GSCI® Precious Metals Index is a world production-weighted index consisting of two precious metals commodities in the world economy: gold and silver.

Set forth below is a summary of the methodology used to calculate the S&P GSCI® Indices. Because the S&P GSCI® is the base index of the S&P GSCI® Component Indices, the methodology for compiling the S&P GSCI® relates as well to the methodology of compiling the S&P GSCI® Component Indices. Each of the S&P GSCI® Component Indices is calculated in the same manner as the S&P GSCI®, except that (i) the daily contract reference price, CPWs and roll weights (each as discussed below) used in performing those calculations are limited to those of the commodities included in the relevant S&P GSCI® Component Index and (ii) each S&P GSCI® Component Index has a separate normalizing constant (discussed below). The methodology for determining the composition and weighting of the S&P GSCI® and for calculating its value is subject to modification in a manner consistent with the purposes of the S&P GSCI®, as described below. S&P Dow Jones makes the official calculations of the S&P GSCI® Indices.

### Composition of the S&P GSCI®

In order to be included in the S&P GSCI®, a contract must satisfy the following eligibility criteria:

- the contract must be in respect of a physical commodity and not a financial commodity;
- the contract must have a specified expiration or term or provide in some other manner for delivery or settlement at a specified time, or within a specified period, in the future;
- the contract must, at any given point in time, be available for trading at least five months prior to its expiration or such other date or time period specified for delivery or settlement;
- the contract must be traded on an exchange, facility or other platform (referred to as a “**trading facility**”) that allows market participants to execute spread transactions, through a single order entry, between the pairs of contract expirations included in the S&P GSCI® that, at any given point in time, will be involved in the rolls to be effected in the next three roll periods (defined below);
- the contract must be denominated in U.S. dollars; and
- the contract must be traded on or through a trading facility that has its principal place of business or operations in a country that is a member of the Organization for Economic Cooperation and Development.

The price of the relevant contract that is used as a reference or benchmark by market participants (referred to as the “**daily contract reference price**”) generally must have been available on a continuous basis for at least two years prior to the proposed date of inclusion in the S&P GSCI®. In appropriate circumstances, S&P Dow Jones may determine that a shorter time period is sufficient or that historical daily contract reference prices for such contract may be derived from daily contract reference prices for a similar or related contract. The daily contract reference price may be (but is not required to be) the price (a) used by the relevant trading facility or clearing facility to determine the margin obligations (if any) of its

members or participants or margining transactions or for other purposes or (b) referred to generally as the reference, closing or settlement price of the relevant contract.

For a contract to be eligible for inclusion in the S&P GSCI<sup>®</sup>, volume data with respect to such contract must be available for at least the three months immediately preceding the date on which the determination is made. The following eligibility criteria apply:

- In order to be added to the S&P GSCI<sup>®</sup>, a contract that is not included in the S&P GSCI<sup>®</sup> at the time of determination and that is based on a commodity that is not represented in the S&P GSCI<sup>®</sup> at such time must have an annualized total dollar value traded over the relevant period of at least U.S. \$15 billion. The total dollar value traded is the dollar value of the total quantity of the commodity underlying transactions in the relevant contract over the period for which the calculation is made, based on the average of the daily contract reference prices on the last day of each month during the period.
- In order to continue to be included in the S&P GSCI<sup>®</sup>, a contract that is already included in the S&P GSCI<sup>®</sup> at the time of determination and that is the only contract on the relevant commodity included in the S&P GSCI<sup>®</sup> must have an annualized total dollar value traded of at least U.S. \$5 billion over the relevant period and of at least U.S. \$10 billion during at least one of the three most recent annual periods used in making the determination.
- In order to be added to the S&P GSCI<sup>®</sup>, a contract that is not included in the S&P GSCI<sup>®</sup> at the time of determination and that is based on a commodity on which there are one or more contracts already included in the S&P GSCI<sup>®</sup> at such time must have an annualized total dollar value traded over the relevant period of at least U.S. \$30 billion.
- In order to continue to be included in the S&P GSCI<sup>®</sup>, a contract that is already included in the S&P GSCI<sup>®</sup> at the time of determination and that is based on a commodity on which there are one or more contracts already included in the S&P GSCI<sup>®</sup> at such time must have an annualized total dollar value traded, over the relevant period of at least U.S. \$10 billion over the relevant period and of at least U.S. \$20 billion during at least one of the three most recent annual periods used in making the determination.

In addition to the volume requirements described above, a contract must have a minimum reference percentage dollar weight:

- In order to continue to be included in the S&P GSCI<sup>®</sup>, a contract that is already included in the S&P GSCI<sup>®</sup> at the time of determination must have a reference percentage dollar weight of at least 0.10%. The reference percentage dollar weight of a contract is determined by multiplying the CPW (defined below) of a contract by the average of its daily contract reference prices on the last day of each month during the relevant period. These amounts are summed for all contracts included in the S&P GSCI<sup>®</sup> and each contract's percentage of the total is then determined.
- In order to be added to the S&P GSCI<sup>®</sup>, a contract that is not included in the S&P GSCI<sup>®</sup> at the time of determination must have a reference percentage dollar weight of at least 1.00% at the time of determination.

In the event that two or more contracts on the same commodity satisfy the eligibility criteria, such contracts are included in the S&P GSCI<sup>®</sup> in the order of their respective total quantity traded during the relevant period (determined as the total quantity of the commodity underlying transactions in the relevant contract), with the contract having the highest total quantity traded being included first. No further contracts are included if such inclusion results in the portion of the S&P GSCI<sup>®</sup> attributable to such commodity exceeding a particular level.

If under the procedure set forth in the preceding paragraph, additional contracts could be included with respect to several commodities at the same time, the procedure is first applied to the commodity that has the smallest portion of the S&P GSCI<sup>®</sup> attributable to it at the time of determination. Subject to the other eligibility criteria, the contract with the highest total quantity traded on such commodity is included.

Before any additional contracts on any commodity are included, the portion of the S&P GSCI® attributable to all commodities is recalculated. The selection procedure described above is then repeated with respect to the contracts on the commodity that then has the smallest portion of the S&P GSCI® attributable to it.

The contracts currently included in the S&P GSCI® are all futures contracts traded on the New York Mercantile Exchange, Inc. (“**NYMEX**”), ICE Futures Europe (“**ICE-Europe**”), ICE Futures U.S. (“**ICE-US**”), the Chicago Mercantile Exchange (“**CME**”), the Chicago Board of Trade (“**CBOT**”), the Kansas City Board of Trade (“**KBT**”), the Commodities Exchange Inc. (“**CMX**”) and the London Metal Exchange (“**LME**”).

The quantity of each of the contracts included in the S&P GSCI® is determined on the basis of a five-year average (referred to as the “**world production average**”) of the production quantity of the underlying commodity from sources determined by S&P Dow Jones to be reasonably accurate and reliable, such as the United Nations Industrial Commodity Statistics Yearbook. However, if a commodity is primarily a regional commodity, based on its production, use, pricing, transportation or other factors, S&P Dow Jones may calculate the weight of such commodity based on regional, rather than world, production data. At present, natural gas is the only commodity included in the S&P GSCI® where the production quantity is determined based on regional (North American) production.

The five-year moving average is updated annually for each commodity included in the S&P GSCI®, based on the five-year period (ending approximately two years prior to the date of calculation and moving backwards) for which complete data for all commodities is available. The contract production weights (the “**CPWs**”) used in calculating the S&P GSCI® are derived from world or regional production averages, as applicable, of the relevant commodities, and are calculated based on the total quantity traded for the relevant contract and the world or regional production average, as applicable, of the underlying commodity. However, if the volume of trading in the relevant contract, as a multiple of the production levels of the commodity, is below specified thresholds, the CPW of the contract is reduced until the threshold is satisfied. This is designed to ensure that trading in each such contract is sufficiently liquid relative to the production of the commodity.

In addition, S&P Dow Jones performs this calculation on a quarterly basis and, if the multiple of any contract is below the prescribed threshold, the composition of the S&P GSCI® is reevaluated, based on the criteria and weighting procedure described above. This procedure is undertaken to allow the S&P GSCI® to shift from contracts that have lost substantial liquidity into more liquid contracts, during the course of a given year. As a result, it is possible that the composition or weighting of the S&P GSCI® will change on one or more of these quarterly evaluation dates. In addition, regardless of whether any changes have occurred during the year, S&P Dow Jones reevaluates the composition of the S&P GSCI® at the conclusion of each year, based on the above criteria. Other commodities that satisfy such criteria, if any, will be added to the S&P GSCI®. Commodities included in the S&P GSCI® that no longer satisfy such criteria, if any, will be deleted.

S&P Dow Jones also determines whether modifications in the selection criteria or the methodology for determining the composition and weights of and for calculating the S&P GSCI® are necessary or appropriate in order to assure that the S&P GSCI® represents a measure of commodity market performance. S&P Dow Jones has the discretion to make any such modifications.

### **Contract Expirations**

Because the S&P GSCI® comprises actively traded contracts with scheduled expirations, it can only be calculated by reference to the prices of contracts for specified expiration, delivery or settlement periods, referred to as “contract expirations.” The contract expirations included in the S&P GSCI® for each commodity during a given year are designated by S&P Dow Jones, provided that each such contract must be an “active contract.” An “active contract” for this purpose is a liquid, actively traded contract expiration, as defined or identified by the relevant trading facility or, if no such definition or identification is provided by the relevant trading facility, as defined by standard custom and practice in the industry.

If a trading facility deletes one or more contract expirations, the S&P GSCI® will be calculated during the remainder of the year in which such deletion occurs based on the remaining contract expirations designated by S&P Dow Jones. If a trading facility ceases trading in all contract expirations relating to a particular contract, S&P Dow Jones may designate an eligible replacement contract on the commodity. To the extent practicable, the replacement will be in effect during the next monthly review of the composition of the S&P GSCI®. If that timing is not practicable, S&P Dow Jones will determine the date of the replacement and will consider a number of factors, including the differences between the existing contract and the replacement contract specifications and contract expirations.

### **Value of the S&P GSCI®**

The value of the S&P GSCI® on any given day is equal to the total dollar weight of the S&P GSCI® divided by a normalizing constant that assures the continuity of the S&P GSCI® over time. The total dollar weight of the S&P GSCI® is the sum of the dollar weight of each of the underlying commodities.

The dollar weight of each such commodity on any given day is equal to:

- the “**daily contract reference price**” (discussed below),
- multiplied by the appropriate CPWs, and
- during a roll period, the appropriate “roll weights” (discussed below).

The daily contract reference price used in calculating the dollar weight of each commodity on any given day is the most recent daily contract reference price made available by the relevant trading facility, except that the daily contract reference price for the most recent prior day will be used if the exchange is closed or otherwise fails to publish a daily contract reference price on that day. In addition, if the trading facility fails to make a daily contract reference price available or publishes a daily contract reference price that, in the reasonable judgment of S&P Dow Jones, reflects manifest error, the relevant calculation will be delayed until the price is made available or corrected; *provided* that, if the price is not made available or corrected by 4:00 p.m., New York City time, S&P Dow Jones may, if it deems such action to be appropriate under the circumstances, determine the appropriate daily contract reference price for the applicable futures contract in its reasonable judgment for purposes of the relevant S&P GSCI® calculation.

The “**roll weight**” of each commodity reflects the fact that the positions in contracts must be liquidated or rolled forward into more distant contract expirations as they approach expiration. If actual positions in the relevant markets were rolled forward, the roll would likely need to take place over a period of days. Since the S&P GSCI® is designed to replicate the performance of actual investments in the underlying contracts, the rolling process incorporated in the S&P GSCI® also takes place over a period of days at the beginning of each month (referred to as the “**roll period**”). On each day of the roll period, the “roll weights” of the first nearby contract expiration on a particular commodity and the more distant contract expiration into which it is rolled are adjusted, so that the hypothetical position in the contract on the commodity that is included in the S&P GSCI® is gradually shifted from the first nearby contract expiration to the more distant contract expiration.

If on any day during a roll period any of the following conditions exists, the portion of the roll that would have taken place on that day is deferred until the next day on which such conditions do not exist:

- no daily contract reference price is available for a given contract expiration;
- any such price represents the maximum or minimum price for such contract month, based on exchange price limits (referred to as a “**Limit Price**”);
- the daily contract reference price published by the relevant trading facility reflects manifest error, or such price is not published by 4:00 p.m., New York City time. In that event, S&P Dow Jones may, but is not required to, determine a daily contract reference price and complete the relevant portion of the roll based on such price; *provided* that, if the trading facility publishes a price before

the opening of trading on the next day, S&P Dow Jones will revise the portion of the roll accordingly; or

- trading in the relevant contract terminates prior to its scheduled closing time.

If any of these conditions exist throughout the roll period, the roll with respect to the affected contract will be effected in its entirety on the next day on which such conditions no longer exist.

### **Contract Daily Return**

The contract daily return on any given day is equal to the sum, for each of the commodities included in the S&P GSCI<sup>®</sup>, of the applicable daily contract reference price on the relevant contract multiplied by the appropriate CPW and the appropriate “roll weight,” divided by the total dollar weight of the S&P GSCI<sup>®</sup> on the preceding day, minus one.

### **Calculation of the S&P GSCI<sup>®</sup> Indices**

#### ***Excess return S&P GSCI<sup>®</sup> Indices***

The value of any excess return version of a S&P GSCI<sup>®</sup> Index on any day on which the S&P GSCI<sup>®</sup> is calculated (an “**S&P GSCI<sup>®</sup> Business Day**”) is equal to the product of:

- the value of the applicable S&P GSCI<sup>®</sup> Index on the immediately preceding S&P GSCI<sup>®</sup> Business Day; and
- one *plus* the contract daily return of the applicable S&P GSCI<sup>®</sup> Index on the S&P GSCI<sup>®</sup> Business Day on which the calculation is made.

#### ***Total Return S&P GSCI<sup>®</sup> Indices***

The value of any total return version of an S&P GSCI<sup>®</sup> Index on any S&P GSCI<sup>®</sup> Business Day reflects the value of an investment in the excess return version of that S&P GSCI<sup>®</sup> Index together with a Treasury bill return and is equal to the product of:

- the value of the applicable S&P GSCI<sup>®</sup> Index on the immediately preceding S&P GSCI<sup>®</sup> Business Day;
- one *plus* the sum of the contract daily return and the Treasury Bill return on the S&P GSCI<sup>®</sup> Business Day on which the calculation is made; and
- one *plus* the Treasury Bill return for each non-S&P GSCI<sup>®</sup> Business Day since the immediately preceding S&P GSCI<sup>®</sup> Business Day.

The Treasury Bill return is the return on a hypothetical investment in the applicable S&P GSCI<sup>®</sup> Index at a rate equal to the interest rate on a specified U.S. Treasury Bill.

### **Index Governance**

#### ***Index Committee***

S&P Dow Jones has established an index committee with respect to the S&P GSCI<sup>®</sup> Indices (the “**Index Committee**”) to oversee the daily management and operations of the S&P GSCI<sup>®</sup>, and is responsible for all analytical methods and calculation of the S&P GSCI<sup>®</sup> Indices. The Index Committee consists of full-time professional members of S&P Dow Jones’s staff. At each meeting, the Index Committee reviews any issues that may affect index constituents, statistics comparing the composition of the indices to the market, commodities that are being considered as candidates for addition to an index and any significant market events. In addition, the Index Committee may revise index policy covering rules for selecting commodities or other matters.

S&P Dow Jones considers information about changes to the S&P GSCI® Indices and related matters to be potentially market-moving and material. Therefore, all Index Committee discussions are confidential.

The Index Committee reserves the right to make exceptions when applying the methodology of the S&P GSCI® if the need arises.

In addition to the daily governance of the S&P GSCI® Indices and maintenance of their methodologies, at least once within any 12-month period, the Index Committee reviews the methodology to ensure the S&P GSCI® Indices continue to achieve the stated objectives, and that the data and methodology remain effective. In certain instances, S&P Dow Jones may publish a consultation inviting comments from external parties.

## **License Agreement**

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## **The Commodity Futures Markets**

Futures contracts on physical commodities are traded on regulated futures exchanges, in the over-the-counter market and on various types of physical and electronic trading facilities and markets. As of

the date of this underlying supplement, all of the contracts included in the S&P GSCI® Indices are exchange-traded futures contracts. An exchange-traded futures contract provides for the purchase and sale of a specified type and quantity of a commodity or financial instrument during a stated delivery month for a fixed price. A futures contract provides for a specified settlement month in which the cash settlement is made or in which the commodity or financial instrument is to be delivered by the seller (whose position is therefore described as “short”) and acquired by the purchaser (whose position is therefore described as “long”).

No purchase price is paid or received on the purchase or sale of a futures contract. Instead, an amount of cash or cash equivalents must be deposited with the broker as “initial margin.” This amount varies based on the requirements imposed by the exchange clearing houses, but it may be lower than 5% of the notional value of the contract. This margin deposit provides collateral for the obligations of the parties to the futures contract.

By depositing margin, which may vary in form depending on the exchange, with the clearing house or broker involved, a market participant may be able to earn interest on its margin funds, thereby increasing the total return that it may realize from an investment in futures contracts.

In the United States, futures contracts are traded on organized exchanges, known as “designated contract markets” at a specified point in time prior to expiration. At any time prior to the expiration of a futures contract, a trader may elect to close out its position by taking an opposite position on the exchange on which the trader obtained the position, subject to the availability of a liquid secondary market. This operates to terminate the position and fix the trader’s profit or loss. Futures contracts are cleared through the facilities of a centralized clearing house and a brokerage firm, referred to as a “futures commission merchant,” which is a member of the clearing house.

Unlike equity securities, commodities or currencies, futures contracts, by their terms, have stated expirations at a specified point in time prior to expiration at a specified point in time prior to expiration. At a specific point in time prior to expiration, trading in a futures contract for the current delivery month will cease. As a result, a market participant wishing to maintain its exposure to a futures contract on a particular commodity or financial instrument with the nearest expiration must close out its position in the expiring contract and establish a new position in the contract for the next delivery month, a process referred to as “rolling.” For example, a market participant with a long position in a futures contract expiring in November who wishes to maintain a position in the nearest delivery month will, as the November contract nears expiration, sell the November contract, which serves to close out the existing long position, and buy a futures contract expiring in December. This will “roll” the November position into a December position, and, when the November contract expires, the market participant will still have a long position in the nearest delivery month.

Futures exchanges and clearing houses in the United States are subject to regulation by the Commodity Futures Trading Commission. Exchanges may adopt rules and take other actions that affect trading, including imposing speculative position limits, maximum price fluctuations and trading halts and suspensions and requiring liquidation of contracts in certain circumstances.

Futures markets outside the United States are generally subject to regulation by comparable regulatory authorities. The structure and nature of trading on non-U.S. exchanges, however, may differ from this description.

## FUND DESCRIPTIONS

### THE ABRDN PLATINUM ETF TRUST

All information contained in this underlying supplement regarding the abrdn Platinum ETF Trust (the “**Platinum ETF Trust**”) has been derived from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by, abrdn ETFs Sponsor LLC (“**abrdn ETFs Sponsor**”), the sponsor of the Platinum ETF Trust. The Bank of New York Mellon is the trustee of the Platinum ETF Trust, and ICBC Standard Bank Plc is the custodian of the Platinum ETF Trust. The shares of the Platinum ETF Trust trade on the NYSE Arca under the ticker symbol “PPLT.”

The investment objective of the Platinum ETF Trust is for its shares to reflect the performance of the price of physical platinum (the “Underlying Commodity”), less the Platinum ETF Trust’s expenses. The assets of the Platinum ETF Trust consist solely of platinum bullion held by a custodian on behalf of the Platinum ETF Trust. The Platinum ETF Trust holds platinum and, from time to time, issues blocks of 50,000 shares (called “baskets”) in exchange for deposits of platinum and distributes platinum in connection with redemptions of such baskets. The shares of the Platinum ETF Trust are intended to provide investors with a simple and cost-efficient means of gaining investment benefits similar to those of holding platinum bullion.

The shares of the Platinum ETF Trust represent units of fractional undivided beneficial interest in and ownership of the Platinum ETF Trust. The Platinum ETF Trust is a passive investment vehicle and the trustee of the Platinum ETF Trust does not actively manage the platinum held by the Platinum ETF Trust. The trustee of the Platinum ETF Trust sells platinum held by the Platinum ETF Trust to pay the Platinum ETF Trust’s expenses on an as-needed basis irrespective of then-current platinum prices. Currently, the Platinum ETF Trust’s only recurring fixed expense is the abrdn ETFs Sponsor’s fee which accrues daily at an annual rate equal to 0.60% of the daily average net asset value of the Platinum ETF Trust, in exchange for the abrdn ETFs Sponsor assuming the responsibility to pay all ordinary fees and expenses of the Platinum ETF Trust.

Information provided to or filed with the SEC by the Platinum ETF Trust pursuant to the Securities Act of 1933, as amended, and the Securities Exchange Act of 1934, as amended, can be located by reference to the SEC file numbers 333-276490 and 001-34590, respectively, through the SEC’s website at <http://www.sec.gov>. The Platinum ETF Trust is not a mutual fund or any other type of investment company within the meaning of the Investment Company Act of 1940, as amended, and is not subject to regulation thereunder. The Platinum ETF Trust is not a commodity pool for purposes of the Commodity Exchange Act, as amended, and is not subject to regulation thereunder, and the abrdn ETFs Sponsor is not subject to regulation by the Commodity Futures Trading Commission as a commodity pool operator, or a commodity trading advisor.

#### Platinum

The price of platinum is primarily affected by global demand for and supply of platinum. However, since the platinum supply is very limited, any disruptions in platinum supply tend to have an exaggerated effect on the price of platinum. Key factors that may influence prices are the policies in or political stability of the most important producing countries, in particular, Russia and South Africa (which together account for a substantial majority of production), the size and availability of the Russian and South African platinum stockpiles and the economic situation of the main consuming countries. Platinum is used in a variety of industries, primarily the automotive industry. Demand for platinum from the automotive industry, which uses platinum in the manufacture of catalytic converters, accounts for a large portion of the industrial use of platinum. Platinum is also used in the chemical industry, the electronics industry and the dental industry. The primary nonindustrial use of platinum is jewelry. In addition, the supply and the price of platinum have been, and may continue to be, affected by geopolitical events, such as Russia’s invasion of Ukraine and resulting sanctions. It is not possible to predict the aggregate effect of all or any combination of these factors. The price of physical platinum has fluctuated widely in recent years and may continue to do so.

## THE ARK INNOVATION ETF

All information contained in this underlying supplement regarding the ARK Innovation ETF (the “**ARKK Fund**”) has been derived from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by, ARK ETF Trust (“**ARK Trust**”). The ARKK Fund is an actively-managed exchange-traded fund managed by ARK Investment Management LLC (“**ARK LLC**”), the investment adviser to the ARKK Fund. The ARKK Fund trades on Cboe BZX Exchange, Inc. under the ticker symbol “ARKK.”

The investment objective of the ARKK Fund is long-term growth of capital.

As an actively-managed fund, the ARKK Fund is subject to management risk. In managing the ARKK Fund, ARK LLC applies investment strategies, techniques and analyses in making investment decisions for the ARKK Fund, but there can be no guarantee that these actions will produce the intended results. The ability of ARK LLC to successfully implement the ARKK Fund’s investment strategy will significantly influence the ARKK Fund’s performance.

The ARKK Fund will invest under normal circumstances primarily (at least 65% of its assets) in equity securities of U.S. and non-U.S. companies that are relevant to the ARKK Fund’s investment theme of disruptive innovation. ARK LLC defines “disruptive innovation” as the introduction of a technologically enabled new product or service that potentially changes the way the world works. ARK LLC believes that companies relevant to this theme are those that rely on or benefit from the development of new products or services, technological improvements and advancements in scientific research relating to the areas of genomics; innovation in automation and manufacturing, transportation, energy, artificial intelligence and materials; the increased use of shared technology, infrastructure and services; and technologies that make financial services more efficient. ARK LLC defines “genomics” as the study of genes and their functions, and related techniques (e.g., genomic sequencing).

ARK Trust is a registered investment company that consists of numerous separate investment portfolios, including the ARKK Fund. Information provided to or filed with the SEC by ARK Trust pursuant to the Securities Act of 1933, as amended, and the Investment Company Act of 1940, as amended, can be located by reference to SEC file numbers 333-191019 and 811-22883, respectively, through the SEC’s website at <http://www.sec.gov>.

## THE GLOBAL X SILVER MINERS ETF

All information contained in this underlying supplement regarding the Global X Silver Miners ETF (the “**Silver Miners ETF**”) has been derived from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by, Global X Funds® (the “**Global X Trust**”) and Global X Management Company LLC (“**Global X Management**”). Global X Management is currently the investment adviser to the Silver Miners ETF. The Silver Miners ETF is an exchange-traded fund that trades on NYSE Arca, Inc. under the ticker symbol “SIL.”

The Silver Miners ETF seeks to provide investment results that correspond generally to the price and yield performance, before fees and expenses, of the Solactive Global Silver Miners Total Return Index (the “**Silver Miners Index**”). The Silver Miners Index is designed to measure broad-based equity market performance of global companies involved in the silver mining industry.

Global X Management uses a “passive” or indexing approach to try to achieve the Silver Miners ETF’s investment objective. The Silver Miners ETF generally will use a replication strategy. A replication strategy is an indexing strategy that involves investing in the securities of the Silver Miners Index in approximately the same proportions as in the Silver Miners Index. However, the Silver Miners ETF may utilize a representative sampling strategy with respect to the Silver Miners Index when a replication strategy might be detrimental or disadvantageous to shareholders of the Silver Miners ETF, such as when there are practical difficulties or substantial costs involved in compiling a portfolio of equity securities to replicate the Silver Miners Index, in instances in which a security in the Silver Miners Index becomes temporarily illiquid, unavailable or less liquid, or as a result of legal restrictions or limitations (such as tax diversification requirements) that apply to the Silver Miners ETF but not the Silver Miners Index.

Tracking error is the divergence of the Silver Miners ETF’s performance from that of the Silver Miners Index. Tracking error may occur because of differences between the instruments held in the Silver Miners ETF’s portfolio and those included in the Silver Miners Index, pricing differences, transaction costs incurred by the Silver Miners ETF, the Silver Miners ETF’s holding of uninvested cash, size of the Silver Miners ETF, differences in timing of the accrual of or the valuation of dividends or interest, tax gains or losses, changes to the Silver Miners Index or the costs to the Silver Miners ETF of complying with various new or existing regulatory requirements. This risk may be heightened during times of increased market volatility or other unusual market conditions. Tracking error also may result because the Silver Miners ETF incurs fees and expenses, while the Silver Miners Index does not. Exchange-traded funds that track indices with significant weights in emerging markets issuers may experience higher tracking error than other exchange-traded funds that do not track such indices.

The Global X Trust is a registered investment company that consists of numerous separate investment portfolios, including the Silver Miners ETF. Information provided to or filed with the SEC by the Global X Trust pursuant to the Securities Act of 1933, as amended, and the Investment Company Act of 1940, as amended, can be located by reference to the SEC file numbers 333-151713 and 811-22209, respectively, through the SEC’s website at <http://www.sec.gov>.

## THE GLOBAL X URANIUM ETF

All information contained in this underlying supplement regarding the Global X Uranium ETF (the “**Uranium ETF**”) has been derived from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by, Global X Funds® (the “**Global X Trust**”) and Global X Management Company LLC (“**Global X Management**”). Global X Management is currently the investment adviser to the Uranium ETF. The Uranium ETF is an exchange-traded fund that trades on NYSE Arca, Inc. under the ticker symbol “URA.”

The Uranium ETF seeks to provide investment results that correspond generally to the price and yield performance, before fees and expenses, of the Solactive Global Uranium & Nuclear Components Total Return Index (the “**Uranium Index**”). The Uranium Index is designed to measure broad based equity market performance of global companies involved in the uranium industry.

Global X Management uses a “passive” or indexing approach to try to achieve the Uranium ETF’s investment objective. The Uranium ETF generally will use a replication strategy. A replication strategy is an indexing strategy that involves investing in the securities of the Uranium Index in approximately the same proportions as in the Uranium Index. However, the Uranium ETF may utilize a representative sampling strategy with respect to the Uranium Index when a replication strategy might be detrimental or disadvantageous to shareholders of the Uranium ETF, such as when there are practical difficulties or substantial costs involved in compiling a portfolio of equity securities to replicate the Uranium Index, in instances in which a security in the Uranium Index becomes temporarily illiquid, unavailable or less liquid, or as a result of legal restrictions or limitations (such as tax diversification requirements) that apply to the Uranium ETF but not the Uranium Index.

Tracking error is the divergence of the Uranium ETF’s performance from that of the Uranium Index. Tracking error may occur because of differences between the instruments held in the Uranium ETF’s portfolio and those included in the Uranium Index, pricing differences, transaction costs incurred by the Uranium ETF, the Uranium ETF’s holding of uninvested cash, size of the Uranium ETF, differences in timing of the accrual of or the valuation of dividends or interest, tax gains or losses, changes to the Uranium Index or the costs to the Uranium ETF of complying with various new or existing regulatory requirements. This risk may be heightened during times of increased market volatility or other unusual market conditions. Tracking error also may result because the Uranium ETF incurs fees and expenses, while the Uranium Index does not. Exchange-traded funds that track indices with significant weights in emerging markets issuers may experience higher tracking error than other exchange-traded funds that do not track such indices.

The Global X Trust is a registered investment company that consists of numerous separate investment portfolios, including the Uranium ETF. Information provided to or filed with the SEC by the Global X Trust pursuant to the Securities Act of 1933, as amended, and the Investment Company Act of 1940, as amended, can be located by reference to the SEC file numbers 333-151713 and 811-22209, respectively, through the SEC’s website at <http://www.sec.gov>.

## THE INVESCO S&P 500® EQUAL WEIGHT ETF

All information contained in this underlying supplement regarding the Invesco S&P 500® Equal Weight ETF (the “**RSP Fund**”) has been derived from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by, Invesco Exchange-Traded Fund Trust (the “**Invesco Trust**”) and Invesco Capital Management LLC (“**Invesco**”). Invesco is currently the investment advisor to the RSP Fund. The RSP Fund is an exchange-traded fund that trades on the NYSE Arca, Inc. under the ticker symbol “RSP.”

The RSP Fund seeks to track the investment results, before fees and expenses, of the S&P 500® Equal Weight Index. The S&P 500® Equal Weight Index is an equal-weighted version of the S&P 500® Index. For more information about the S&P 500® Equal Weight Index, please see “Equity Index Descriptions — The S&P Equal Weight Indices.”

The RSP Fund employs a “full replication” methodology in seeking to track the S&P 500® Equal Weight Index, meaning that it generally invests in all of the securities composing the S&P 500® Equal Weight Index in proportion to their weightings in the S&P 500® Equal Weight Index. However, under various circumstances, it may not be possible or practicable to purchase all of those securities in those same weightings. In those circumstances, the RSP Fund may purchase a sample of securities in the S&P 500® Equal Weight Index. A “sampling” methodology means that Invesco uses quantitative analysis to select securities from the S&P 500® Equal Weight Index universe to obtain a representative sample of securities that have, in the aggregate, investment characteristics similar to the S&P 500® Equal Weight Index in terms of key risk factors, performance attributes and other characteristics. These include industry weightings, market capitalization, return variability, earnings valuation, yield and other financial characteristics of securities. When employing a sampling methodology, Invesco bases the quantity of holdings in the RSP Fund on a number of factors, including asset size of the RSP Fund, and generally expects the RSP Fund to hold less than the total number of securities in the S&P 500® Equal Weight Index. However, Invesco reserves the right to invest the RSP Fund in as many securities as it believes necessary to achieve the RSP Fund’s investment objective.

The RSP Fund’s return may not match the return of the S&P 500® Equal Weight Index for a number of reasons. For example, the RSP Fund incurs operating expenses not applicable to the S&P 500® Equal Weight Index and incurs costs in buying and selling securities, especially when rebalancing the RSP Fund’s securities holdings to reflect changes in the composition of the S&P 500® Equal Weight Index. To the extent the RSP Fund uses a sampling methodology, it may have a larger tracking error than if it used a full replication methodology. In addition, the performance of the RSP Fund and the S&P 500® Equal Weight Index may vary due to asset valuation differences and differences between the RSP Fund’s portfolio and the S&P 500® Equal Weight Index resulting from legal restrictions, costs or liquidity constraints.

The Invesco Trust is a registered investment company that consists of numerous separate investment portfolios, including the RSP Fund. Information provided to or filed with the SEC by the Invesco Trust pursuant to the Securities Act of 1933, as amended, and the Investment Company Act of 1940, as amended, can be located by reference to SEC file numbers 333-102228 and 811-21265, respectively, through the SEC’s website at <http://www.sec.gov>.

## THE INVESCO SOLAR ETF

All information contained in this underlying supplement regarding the Invesco Solar ETF (the “**Solar Fund**”) has been derived from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by, Invesco Exchange-Traded Fund Trust II (the “**Invesco Trust**”) and Invesco Capital Management LLC (“**Invesco**”). Invesco is currently the investment adviser to the Solar Fund. The Solar Fund is an exchange-traded fund that trades on NYSE Arca, Inc. under the ticker symbol “TAN.”

The Solar Fund seeks to track the investment results (before fees and expenses) of the MAC Global Solar Energy Index. The MAC Global Solar Energy Index seeks to track the performance of companies in global solar energy businesses.

The Solar Fund uses an “indexing” investment approach to seek to track the investment results, before fees and expenses, of the MAC Global Solar Energy Index. The Solar Fund employs a “full replication” methodology in seeking to track the MAC Global Solar Energy Index, meaning that it generally invests in all of the securities comprising the MAC Global Solar Energy Index in proportion to their weightings in the MAC Global Solar Energy Index. The Solar Fund will concentrate its investments (*i.e.*, invest more than 25% of the value of its net assets) in securities of issuers in any one industry or group of industries only to the extent that the MAC Global Solar Energy Index reflects a concentration in that industry or group of industries. The Solar Fund will not otherwise concentrate its investments in securities of issuers in any one industry or group of industries. The Fund’s portfolio holdings, and the extent to which it concentrates its investments, are likely to change over time.

The Solar Fund’s return may not match the return of the MAC Global Solar Energy Index for a number of reasons. For example, the Solar Fund incurs operating expenses not applicable to the MAC Global Solar Energy Index and incurs costs in buying and selling securities, especially when rebalancing the Solar Fund’s securities holdings to reflect changes in the composition of the MAC Global Solar Energy Index. In addition, the performance of the Solar Fund and the MAC Global Solar Energy Index may vary due to asset valuation differences and differences between the Solar Fund’s portfolio and the MAC Global Solar Energy Index resulting from legal restrictions, cost or liquidity constraints.

The Invesco Trust is a registered investment company that consists of numerous separate investment portfolios, including the Solar Fund. Information provided to or filed with the SEC by the Invesco Trust pursuant to the Securities Act of 1933, as amended, and the Investment Company Act of 1940, as amended, can be located by reference to SEC file numbers 333-138490 and 811-21977, respectively, through the SEC’s website at <http://www.sec.gov>.

## THE INVESCO QQQ TRUST<sup>SM</sup>, SERIES 1

All information contained in this underlying supplement regarding the Invesco QQQ Trust<sup>SM</sup>, Series 1 (the “**QQQ Fund**”) has been derived from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by, The Bank of New York Mellon, as trustee of the QQQ Fund (the “**QQQ Fund Trustee**”), and Invesco Capital Management LLC, as sponsor of the QQQ Fund. The QQQ Fund is an open-end management investment company that issues securities called “Invesco QQQ Shares.” The QQQ Fund trades on The Nasdaq Stock Market under the ticker symbol “QQQ.”

The investment objective of the QQQ Fund is to seek to track the investment results, before fees and expenses, of the Nasdaq-100 Index<sup>®</sup>. The Nasdaq-100 Index<sup>®</sup> is a modified market capitalization-weighted index that is designed to measure the performance of 100 of the largest non-financial companies listed on The Nasdaq Stock Market. For more information about the Nasdaq-100 Index<sup>®</sup>, please see “Equity Index Descriptions — The Nasdaq-100 Index<sup>®</sup>.”

The QQQ Fund holds all of the stocks in the Nasdaq-100 Index<sup>®</sup> and cash and is not actively managed by traditional methods, which typically involve effecting changes in the holdings of securities on the basis of judgments made relating to economic, financial and market considerations. To maintain the correspondence between the composition and weights of the securities held by the QQQ Fund and the component securities of the Nasdaq-100 Index<sup>®</sup> (“**QQQ Index Securities**”), the QQQ Fund Trustee adjusts the holdings of the QQQ Fund from time to time to conform to periodic changes in the identity and/or relative weights of the QQQ Index Securities.

The QQQ Fund will not be able to replicate exactly the performance of the Nasdaq-100 Index<sup>®</sup> because the total return generated by the securities held by the QQQ Fund will be reduced by transaction costs incurred in adjusting the actual balance of the securities held by the QQQ Fund and other expenses of the QQQ Fund, whereas such transaction costs and expenses are not included in the calculation of the Nasdaq-100 Index<sup>®</sup>. It is also possible that for short periods of time, the QQQ Fund may not fully replicate the performance of the Nasdaq-100 Index<sup>®</sup> due to the temporary unavailability of certain QQQ Index Securities in the secondary market or due to other extraordinary circumstances. Such events are unlikely to continue for an extended period of time because the QQQ Fund Trustee is required to correct such imbalances by means of adjusting the composition of the securities held by the QQQ Fund. It is also possible that the composition of the QQQ Fund may not exactly replicate the composition of the Nasdaq-100 Index<sup>®</sup> if the QQQ Fund has to adjust its portfolio holdings in order to continue to qualify as a “regulated investment company” under the Internal Revenue Code of 1986, as amended.

The QQQ Fund is a registered investment company. Information provided to or filed with the SEC by the QQQ Fund pursuant to the Securities Act of 1933, as amended, and the Investment Company Act of 1940, as amended, can be located by reference to SEC file numbers 333-61001 and 811-08947, respectively, through the SEC’s website at <http://www.sec.gov>.

## THE iSHARES® 20+ YEAR TREASURY BOND ETF

All information contained in this underlying supplement regarding the iShares® 20+ Year Treasury Bond ETF (the “**20+ Treasury Fund**”) has been derived from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by, iShares® Trust and BlackRock Fund Advisors (“**BFA**”). The 20+ Treasury Fund is an investment portfolio of iShares® Trust and is maintained and managed by BFA. BFA is currently the investment adviser to the 20+ Treasury Fund. The 20+ Treasury Fund is an exchange-traded fund that trades on The Nasdaq Stock Market under the ticker symbol “TLT.”

The 20+ Treasury Fund seeks to track the investment results, before fees and expenses, of an index composed of U.S. Treasury bonds with remaining maturities greater than twenty years. On March 31, 2016, the 20+ Treasury Fund ceased tracking the Barclays U.S. 20+ Year Treasury Bond Index and began tracking the ICE U.S. Treasury 20+ Year Bond Index (the “**ICE 20+ Year Index**”). The ICE 20+ Year Index measures the performance of public obligations of the U.S. dollar-denominated, fixed-rate U.S. Treasury market that has a remaining maturity of greater than or equal to twenty years.

BFA uses a representative sampling indexing strategy to manage the 20+ Treasury Fund. “Representative sampling” is an indexing strategy that involves investing in a representative sample of securities that collectively has an investment profile similar to that of an applicable underlying index. The securities selected are expected to have, in the aggregate, investment characteristics (based on factors such as market value and industry weightings), fundamental characteristics (such as return variability, duration, maturity or credit ratings and yield) and liquidity measures similar to those of an applicable underlying index. The 20+ Treasury Fund may or may not hold all of the securities in the ICE 20+ Year Index.

The 20+ Treasury Fund may be subject to “tracking error,” which is the divergence of the 20+ Treasury Fund’s performance from that of the ICE 20+ Year Index. Tracking error may occur due to a number of factors, including differences between the securities and other assets held in the 20+ Treasury Fund’s portfolio and those included in the ICE 20+ Year Index; differences in the timing and methodologies used to value securities and other assets; transaction costs and other expenses incurred by the 20+ Treasury Fund that the ICE 20+ Year Index does not incur; the 20+ Treasury Fund’s holding of uninvested cash; differences in the timing of the accrual or the valuation of dividends or interest received by the 20+ Treasury Fund or distributions paid to the 20+ Treasury Fund’s shareholders; tax gains or losses; the requirements for the 20+ Treasury Fund to maintain pass-through tax treatment; portfolio transactions carried out to minimize the distribution of capital gains to shareholders; the acceptance of custom baskets; changes to the ICE 20+ Year Index; and impacts to the 20+ Treasury Fund of complying with certain regulatory requirements or limits. Tracking error risk may be heightened during times of increased market volatility or other unusual market conditions.

iShares® Trust is a registered investment company that consists of numerous separate investment portfolios, including the 20+ Treasury Fund. Information provided to or filed with the SEC by iShares® Trust pursuant to the Securities Act of 1933, as amended, and the Investment Company Act of 1940, as amended, can be located by reference to SEC file numbers 333-92935 and 811-09729, respectively, through the SEC’s website at <http://www.sec.gov>.

## THE iSHARES® BITCOIN TRUST ETF

All information contained in this underlying supplement regarding the iShares® Bitcoin Trust ETF (the “**IBIT Fund**”) has been derived from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by, the sponsor of the IBIT Fund, iShares Delaware Trust Sponsor LLC (“**iShares Delaware**”), an indirect subsidiary of BlackRock, Inc. BlackRock Fund Advisors, a California corporation that is a wholly-owned subsidiary of BlackRock, Inc., is the trustee of the IBIT Fund. The Bank of New York Mellon is the cash custodian of the IBIT Fund and Coinbase Custody Trust Company, LLC is the bitcoin custodian of the IBIT Fund. The IBIT Fund is an investment trust that trades on The Nasdaq Stock Market under the ticker symbol “IBIT.”

The IBIT Fund seeks to reflect generally the performance of the price of bitcoin before the payment of its expenses and liabilities. The assets of the IBIT Fund consist primarily of bitcoin held by the bitcoin custodian on behalf of the IBIT Fund. The IBIT Fund issues or sells blocks of shares in exchange for deposits of bitcoin or cash. The shares of the IBIT Fund are intended to constitute a simple and cost-effective means of making an investment similar to an investment in bitcoin. The shares of the IBIT Fund represent units of fractional undivided beneficial interests in and ownership of the IBIT Fund’s net assets. The IBIT Fund is a passive investment vehicle that does not seek to generate returns beyond tracking the price of bitcoin and iShares Delaware does not actively manage the bitcoin held by the IBIT Fund. The trustee of the IBIT Fund sells bitcoin held by the IBIT Fund to pay the IBIT Fund’s expenses on an as-needed basis irrespective of then-current bitcoin prices.

Currently, the IBIT Fund’s only ordinary recurring expense is expected to be iShares Delaware’s fee, which is accrued daily at an annualized rate equal to 0.25% of the net asset value of the IBIT Fund and is payable at least quarterly in arrears. The trustee of the IBIT Fund will, when directed by iShares Delaware, and, in the absence of such direction, may, in its discretion, sell bitcoin in such quantity and at such times as may be necessary to permit payment of iShares Delaware’s fee and of expenses or liabilities of the IBIT Fund not assumed by iShares Delaware. As a result of the recurring sales of bitcoin necessary to pay iShares Delaware’s fee and the IBIT Fund expenses or liabilities not assumed by the iShares Delaware, the net asset value of the IBIT Fund and, correspondingly, the fractional amount of bitcoin represented by each share will decrease over the life of the IBIT Fund. New deposits of bitcoin, received in exchange for issuances of new shares by the IBIT Fund, do not reverse this trend.

Information provided to or filed with the SEC by the IBIT Fund pursuant to the Securities Act of 1933, as amended, and the Securities Exchange Act of 1934, as amended, can be located by reference to SEC file numbers 333-272680 and 001-41914, respectively, through the SEC’s website at <http://www.sec.gov>. The IBIT Fund is not a mutual fund or any other type of investment company within the meaning of the Investment Company Act of 1940, as amended, and is not subject to regulation thereunder. The IBIT Fund is not a commodity pool for purposes of the Commodity Exchange Act, as amended, and is not subject to regulation thereunder, and iShares Delaware is not subject to regulation by the Commodity Futures Trading Commission as a commodity pool operator or a commodity trading advisor.

### **Bitcoin**

Bitcoin is a digital asset the ownership and behavior of which are determined by participants in an online, peer-to-peer network that connects computers that run publicly accessible, or “open source,” software that follows the rules and procedures governing the bitcoin network, commonly referred to as the bitcoin protocol. The value of bitcoin, like the value of other digital assets, is not backed by any government, corporation or other identified body. Ownership and the ability to transfer or take other actions with respect to bitcoin are protected through public-key cryptography. The supply of bitcoin is constrained or formulated by its protocol instead of being explicitly delegated to an identified body (e.g., a central bank) to control. Units of bitcoin, called tokens, are treated as fungible. Bitcoin and certain other types of digital assets are often referred to as digital currencies or cryptocurrencies. No single entity owns or operates the bitcoin network, the infrastructure of which is collectively maintained by (1) a decentralized group of participants who run computer software that results in the recording and validation of transactions (commonly referred to as “miners”), (2) developers who propose improvements to the bitcoin protocol and the software that enforces the protocol and (3) users who choose what bitcoin software to run.

Bitcoin was released in 2009 and, as a result, there is little data on its long-term investment potential. Bitcoin is not backed by a government-issued legal tender or any other currency or asset. Bitcoin is “stored” or reflected on a digital transaction ledger commonly known as a “blockchain.” A blockchain is a type of shared and continually reconciled database, stored in a decentralized manner on the computers of certain users of the digital asset. Bitcoin is created by “mining.” Mining involves miners using a sophisticated computer program to repeatedly solve very complex mathematical problems on specialized computer hardware. Miners can be bitcoin enthusiasts but increasingly are professional mining operations that design and build dedicated machines and data centers as the computing power required to solve the problem continues to increase significantly.

## THE iSHARES® ETHEREUM TRUST ETF

All information contained in this underlying supplement regarding the iShares® Ethereum Trust ETF (the “**ETHA Fund**”) has been derived from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by, the sponsor of the ETHA Fund, iShares Delaware Trust Sponsor LLC (“**iShares Delaware**”), an indirect subsidiary of BlackRock, Inc. BlackRock Fund Advisors, a California corporation that is a wholly-owned subsidiary of BlackRock, Inc., is the trustee of the ETHA Fund. The Bank of New York Mellon is the cash custodian of the ETHA Fund and Coinbase Custody Trust Company, LLC is the ether custodian of the ETHA Fund. The ETHA Fund is an investment trust that trades on The Nasdaq Stock Market under the ticker symbol “ETHA.”

The ETHA Fund seeks to reflect generally the performance of the price of ether before the payment of its expenses and liabilities. The assets of the ETHA Fund consist primarily of ether held by the ether custodian on behalf of the ETHA Fund. The ETHA Fund issues or sells blocks of shares in exchange for deposits of ether or cash. The shares of the ETHA Fund are intended to constitute a simple and cost-effective means of making an investment similar to an investment in ether. The shares of the ETHA Fund represent units of fractional undivided beneficial interest in and ownership of the ETHA Fund’s net assets. The ETHA Fund is a passive investment vehicle that does not seek to generate returns beyond tracking the price of ether and iShares Delaware does not actively manage the ether held by the ETHA Fund. The trustee of the ETHA Fund sells ether held by the ETHA Fund to pay the ETHA Fund’s expenses on an as-needed basis irrespective of then-current ether prices.

Currently, the ETHA Fund’s only ordinary recurring expense is expected to be iShares Delaware’s fee, which is accrued daily at an annualized rate equal to 0.25% of the net asset value of the ETHA Fund and is payable at least quarterly in arrears. The trustee of the ETHA Fund will, when directed by iShares Delaware, and, in the absence of such direction, may, in its discretion, sell ether in such quantity and at such times as may be necessary to permit payment of iShares Delaware’s fee and of expenses or liabilities of the ETHA Fund not assumed by iShares Delaware. As a result of the recurring sales of ether necessary to pay iShares Delaware’s fee and the ETHA Fund expenses or liabilities not assumed by iShares Delaware, the net asset value of the ETHA Fund and, correspondingly, the fractional amount of ether represented by each share will decrease over the life of the ETHA Fund. New deposits of ether, received in exchange for issuances of new shares by the ETHA Fund, do not reverse this trend.

Information provided to or filed with the SEC by the ETHA Fund pursuant to the Securities Act of 1933, as amended, and the Securities Exchange Act of 1934, as amended, can be located by reference to SEC file numbers 333-275583 and 001-42166, respectively, through the SEC’s website at <http://www.sec.gov>. The ETHA Fund is not a mutual fund or any other type of investment company within the meaning of the Investment Company Act of 1940, as amended, and is not subject to regulation thereunder. The ETHA Fund is not a commodity pool for purposes of the Commodity Exchange Act, as amended, and is not subject to regulation thereunder, and iShares Delaware is not subject to regulation by the Commodity Futures Trading Commission as a commodity pool operator or a commodity trading advisor.

### ***Ether***

Ether is a digital asset, the ownership and behavior of which are determined by participants in an online, peer-to-peer network that connects computers that run publicly accessible, or “open source,” software that follows the rules and procedures governing the ethereum network. The value of ether, like the value of other digital assets, is not backed by any government, corporation or other identified body. Ownership and the ability to transfer or take other actions with respect to ether are protected through public-key cryptography. The supply of ether is constrained or formulated by its protocol instead of being explicitly delegated to an identified body (e.g., a central bank) to control. Unlike certain digital assets, such as bitcoin, there is no hard cap on the supply of ether. Units of ether, called tokens, are treated as fungible. Ether and certain other types of digital assets are often referred to as digital currencies or cryptocurrencies. No single entity owns or operates the ethereum network, the infrastructure of which is collectively maintained by (1) a decentralized group of participants who run computer software that results in the recording and validation of transactions (commonly referred to as “validators”), (2) developers who

propose improvements to the ethereum network's underlying protocol and the software that enforces the protocol and (3) users who choose what ethereum network software to run.

Ether was released in 2015 and, as a result, there is little data on its long-term investment potential. Ether is not backed by a government-issued legal tender or any other currency or asset. Ether is "stored" or reflected on a digital transaction ledger commonly known as a "blockchain." A blockchain is a type of shared and continually reconciled database, stored in a decentralized manner on the computers of certain users of the digital asset. The ethereum network has undergone a number of significant changes since its release, including the transition from a proof-of-work consensus mechanism (where network participants engaged in prescribed, complex mathematical calculations to add blocks containing transactions to the blockchain) to a proof-of-stake consensus mechanism. Under the proof-of-stake consensus mechanism, validators risk or "stake" their ether to compete to be randomly selected to validate transactions and are rewarded ether in proportion to the amount of ether staked. Malicious activity, such as validating multiple blocks, disagreeing with the eventual consensus or otherwise violating protocol rules, can result in the forfeiture of a portion of the staked ether. The ETHA Fund is not permitted to stake its ether and is therefore not generating income or other earnings from staking. To the extent the ETHA Fund were to begin staking its ether, such staking may introduce new risks involving security risks, regulatory risks and operational risks.

## THE iSHARES® ETFS

All information contained in this underlying supplement regarding the iShares® Biotechnology ETF, the iShares® China Large-Cap ETF, the iShares® Global Clean Energy ETF, the iShares® MSCI ACWI ETF, the iShares® MSCI Brazil ETF, the iShares® MSCI China ETF, the iShares® MSCI EAFE ETF, the iShares® MSCI Emerging Markets ETF, the iShares® MSCI Japan ETF, the iShares® MSCI Mexico ETF, the iShares® Russell 1000 ETF, the iShares® Russell 2000 ETF, the iShares® Russell 3000 ETF, the iShares® Russell 1000 Growth ETF, the iShares® Russell 2000 Growth ETF, the iShares® Russell 1000 Value ETF, the iShares® Russell 2000 Value ETF, the iShares® S&P 500 Growth ETF, the iShares® S&P 500 Value ETF, the iShares® Semiconductor ETF and the iShares® U.S. Real Estate ETF (each, an “iShares® ETF” and collectively, the “iShares® ETFs”), including, without limitation, their make-up, method of calculation and changes in their components, has been derived from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by, the fund manager of each iShares® ETF and BlackRock Fund Advisors (“BFA”). The iShares® ETFs are investment portfolios of either iShares® Trust or iShares®, Inc. and are maintained and managed by their respective fund managers. BFA is currently the investment adviser to the iShares® ETFs.

The iShares® ETFs (except for the iShares® Biotechnology ETF, the iShares® Global Clean Energy ETF, the iShares® MSCI ACWI ETF, the iShares® MSCI China ETF and the iShares® Semiconductor ETF) are exchange-traded funds that trade on the NYSE Arca, Inc. (“**NYSE Arca**”) under their respective ticker symbols. The iShares® Biotechnology ETF, the iShares® Global Clean Energy ETF, the iShares® MSCI ACWI ETF, the iShares® MSCI China ETF and the iShares® Semiconductor ETF are exchange-traded funds that trade on The Nasdaq Stock Market LLC (“**Nasdaq**”) under their respective ticker symbols.

BFA uses a representative sampling indexing strategy to manage each iShares® ETF. “Representative sampling” is an indexing strategy that involves investing in a representative sample of securities that collectively has an investment profile similar to that of an applicable underlying index. The securities selected are expected to have, in the aggregate, investment characteristics (based on factors such as market capitalization and industry weightings), fundamental characteristics (such as return variability and yield) and liquidity measures similar to those of an applicable underlying index. Each iShares® ETF may or may not hold all of the securities in its underlying index.

Each iShares® ETF’s underlying index is a financial calculation, based on a grouping of financial instruments, and is not an investment product, while each iShares® ETF is an actual investment portfolio. The performance of each iShares® ETF and its underlying index may vary for a number of reasons, including transaction costs, asset or currency valuations, corporate actions (such as mergers and spin-offs), timing variances and differences between that iShares® ETF’s portfolio and its underlying index resulting from that iShares® ETF’s use of representative sampling or from legal restrictions (such as diversification requirements) that apply to that iShares® ETF but not to its underlying index. “**Tracking error**” is the divergence of the performance (return) of an iShares® ETF’s portfolio from that of its underlying index. Because each iShares® ETF uses a representative sampling indexing strategy, it can be expected to have a larger tracking error than if it used a replication indexing strategy. “**Replication**” is an indexing strategy in which a fund invests in substantially all of the securities in its underlying index in approximately the same proportions as in the underlying index.

iShares® Trust and iShares®, Inc. are registered investment companies that consist of numerous separate investment portfolios, including the iShares® ETFs. Information provided to or filed with the SEC by iShares® Trust and iShares®, Inc. pursuant to the Securities Act of 1933, as amended, and the Investment Company Act of 1940, as amended, can be located by reference to SEC file numbers 333-92935 and 811-09729, respectively, for iShares® Trust, and SEC file numbers 033-97598 and 811-09102, respectively, for iShares®, Inc., through the SEC’s website at <http://www.sec.gov>.

### The iShares® Biotechnology ETF

The iShares® Biotechnology ETF (the “**IBB Fund**”) seeks to track the investment results, before fees and expenses, of an index composed of U.S.-listed equities in the biotechnology sector, which is currently

the NYSE Biotechnology Index. The NYSE Biotechnology Index is a modified float-adjusted market capitalization-weighted index that is designed to track the performance of qualifying U.S.-listed companies classified according to the ICE Uniform Sector Classification schema within the Biotechnology Sub-Industry Group (as determined by ICE Data Indices, LLC or its affiliates) which include companies that are engaged in the research and development of therapeutic treatments but are not focused on the commercialization and mass production of pharmaceutical drugs and companies that are engaged in the production of tools or systems that enable biotechnology processes. The IBB Fund is an investment portfolio of iShares® Trust. The IBB Fund trades on Nasdaq under the ticker symbol “IBB.”

### **The iShares® China Large-Cap ETF**

The iShares® China Large-Cap ETF (the “**FXI Fund**”) seeks to track the investment results, before fees and expenses, of an index composed of large-capitalization Chinese equities that trade on the Hong Kong Stock Exchange, which is currently the FTSE China 50 Index. For more information about the FTSE China 50 Index, please see “Equity Index Descriptions — The FTSE China 50 Index” in this underlying supplement. The FXI Fund is an investment portfolio of iShares® Trust. The FXI Fund trades on the NYSE Arca under the ticker symbol “FXI.”

### **The iShares® Global Clean Energy ETF**

The iShares® Global Clean Energy ETF (the “**ICLN Fund**”) seeks to track the investment results, before fees and expenses, of an index composed of global equities in the clean energy sector, which is currently the S&P Global Clean Energy Transition Index™. The S&P Global Clean Energy Transition Index™ is a modified market capitalization-weighted index that is designed to measure the performance of companies in global clean energy related businesses from both developed and emerging markets, with a target constituent count of 100. The ICLN Fund is an investment portfolio of iShares® Trust. The ICLN Fund trades on Nasdaq under the ticker symbol “ICLN.”

### **The iShares® MSCI ACWI ETF**

The iShares® MSCI ACWI ETF (the “**ACWI Fund**”) seeks to track the investment results, before fees and expenses, of an index composed of large- and mid-capitalization developed and emerging markets equities, which is currently the MSCI ACWI Index. For more information about the MSCI ACWI Index, please see “Equity Index Descriptions — The MSCI Indices” in this underlying supplement. The ACWI Fund is an investment portfolio of iShares® Trust. The ACWI Fund trades on Nasdaq under the ticker symbol “ACWI.”

### **The iShares® MSCI Brazil ETF**

The iShares® MSCI Brazil ETF (the “**EWZ Fund**”) seeks to track the investment results, before fees and expenses, of an index composed of Brazilian equities, which is currently the MSCI Brazil 25/50 Index. The MSCI Brazil 25/50 Index is a free float-adjusted market capitalization-weighted index that is designed to measure the performance of the large- and mid-capitalization segments of the equity market in Brazil. The EWZ Fund is an investment portfolio of iShares®, Inc. The EWZ Fund trades on the NYSE Arca under the ticker symbol “EWZ.”

### **The iShares® MSCI China ETF**

The iShares® MSCI China ETF (the “**MCHI Fund**”) seeks to track the investment results, before fees and expenses, of an index composed of Chinese equities that are available to international investors, which is currently the MSCI China Index. The MSCI China Index is a free float-adjusted market capitalization-weighted index that is designed to capture large- and mid-cap representation across China A shares, H shares, B shares, Red chips, P chips and foreign listings (e.g. American depositary receipts). The MCHI Fund is an investment portfolio of iShares® Trust. The MCHI Fund trades on Nasdaq under the ticker symbol “MCHI.”

### **The iShares® MSCI EAFE ETF**

The iShares® MSCI EAFE ETF (the “**EFA Fund**”) seeks to track the investment results, before fees and expenses, of an index composed of large- and mid-capitalization developed market equities, excluding the U.S. and Canada, which is currently the MSCI EAFE® Index. For more information about the MSCI EAFE® Index, please see “Equity Index Descriptions — The MSCI Indices” in this underlying supplement. The EFA Fund is an investment portfolio of iShares® Trust. The EFA Fund trades on the NYSE Arca under the ticker symbol “EFA.”

### **The iShares® MSCI Emerging Markets ETF**

The iShares® MSCI Emerging Markets ETF (the “**EEM Fund**”) seeks to track the investment results, before fees and expenses, of an index composed of large- and mid-capitalization emerging market equities, which is currently the MSCI Emerging Markets Index. For more information about the MSCI Emerging Markets Index, please see “Equity Index Descriptions — The MSCI Indices” in this underlying supplement. The EEM Fund is an investment portfolio of iShares®, Inc. The EEM Fund trades on the NYSE Arca under the ticker symbol “EEM.”

### **The iShares® MSCI Japan ETF**

The iShares® MSCI Japan ETF (the “**EWJ Fund**”) seeks to track the investment results, before fees and expenses, of an index composed of Japanese equities, which is currently the MSCI Japan Index. The MSCI Japan Index is a free float-adjusted market capitalization-weighted index that is designed to measure the performance of the large- and mid-capitalization segments of the Japanese equity market. The EWJ Fund is an investment portfolio of iShares®, Inc. The EWJ Fund trades on the NYSE Arca under the ticker symbol “EWJ.”

### **The iShares® MSCI Mexico ETF**

The iShares® MSCI Mexico ETF (the “**EWJ Fund**”) seeks to track the investment results, before fees and expenses, of a broad-based index composed of Mexican equities, which is currently the MSCI Mexico IMI 25/50 Index. The MSCI Mexico IMI 25/50 Index is a free float-adjusted market capitalization-weighted index that is designed to measure the performance of the large-, mid- and small-capitalization segments of the equity market in Mexico. The EWW Fund is an investment portfolio of iShares®, Inc. The EWW Fund trades on the NYSE Arca under the ticker symbol “EWW.”

### **The iShares® Russell 1000 ETF**

The iShares® Russell 1000 ETF (the “**IWB Fund**”) seeks to track the investment results, before fees and expenses, of an index composed of large- and mid-capitalization U.S. equities, which is currently the Russell 1000® Index. For more information about the Russell 1000® Index, please see “Equity Index Descriptions — The Russell Indices” in this underlying supplement. The IWB Fund is an investment portfolio of iShares® Trust. The IWB Fund trades on the NYSE Arca under the ticker symbol “IWB.”

### **The iShares® Russell 2000 ETF**

The iShares® Russell 2000 ETF (the “**IWM Fund**”) seeks to track the investment results, before fees and expenses, of an index composed of small-capitalization U.S. equities, which is currently the Russell 2000® Index. For more information about the Russell 2000® Index, please see “Equity Index Descriptions — The Russell Indices” in this underlying supplement. The IWM Fund is an investment portfolio of iShares® Trust. The IWM Fund trades on the NYSE Arca under the ticker symbol “IWM.”

### **The iShares® Russell 3000 ETF**

The iShares® Russell 3000 ETF (the “**IWV Fund**”) seeks to track the investment results, before fees and expenses, of a broad-based index composed of U.S. equities, which is currently the Russell 3000® Index. For more information about the Russell 3000® Index, please see “Equity Index Descriptions — The Russell Indices” in this underlying supplement. The IWV Fund is an investment portfolio of iShares® Trust. The IWV Fund trades on the NYSE Arca under the ticker symbol “IWV.”

### **The iShares® Russell 1000 Growth ETF**

The iShares® Russell 1000 Growth ETF (the “**IWF Fund**”) seeks to track the investment results, before fees and expenses, of an index composed of large- and mid-capitalization U.S. equities that exhibit growth characteristics, which is currently the Russell 1000® Growth Index. For more information about the Russell 1000 Growth Index, please see “Equity Index Descriptions — The Russell Style Indices” in this underlying supplement. The IWF Fund is an investment portfolio of iShares® Trust. The IWF Fund trades on the NYSE Arca under the ticker symbol “IWF.”

### **The iShares® Russell 2000 Growth ETF**

The iShares® Russell 2000 Growth ETF (the “**IWO Fund**”) seeks to track the investment results, before fees and expenses, of an index composed of small-capitalization U.S. equities that exhibit growth characteristics, which is currently the Russell 2000® Growth Index. For more information about the Russell 2000 Growth Index, please see “Equity Index Descriptions — The Russell Style Indices” in this underlying supplement. The IWO Fund is an investment portfolio of iShares® Trust. The IWO Fund trades on the NYSE Arca under the ticker symbol “IWO.”

### **The iShares® Russell 1000 Value ETF**

The iShares® Russell 1000 Value ETF (the “**IWD Fund**”) seeks to track the investment results, before fees and expenses, of an index composed of large- and mid-capitalization U.S. equities that exhibit value characteristics, which is currently the Russell 1000® Value Index. For more information about the Russell 1000® Value Index, please see “Equity Index Descriptions — The Russell Style Indices” in this underlying supplement. The IWD Fund is an investment portfolio of iShares® Trust. The IWD Fund trades on the NYSE Arca under the ticker symbol “IWD.”

### **The iShares® Russell 2000 Value ETF**

The iShares® Russell 2000 Value ETF (the “**IWN Fund**”) seeks to track the investment results, before fees and expenses, of an index composed of small-capitalization U.S. equities that exhibit value characteristics, which is currently the Russell 2000® Value Index. For more information about the Russell 2000® Value Index, please see “Equity Index Descriptions — The Russell Style Indices” in this underlying supplement. The IWN Fund is an investment portfolio of iShares® Trust. The IWN Fund trades on the NYSE Arca under the ticker symbol “IWN.”

### **The iShares® S&P 500 Growth ETF**

The iShares® S&P 500 Growth ETF (the “**IVW Fund**”) seeks to track the investment results, before fees and expenses, of an index composed of large-capitalization U.S. equities that exhibit growth characteristics, which is currently the S&P 500® Growth Index. For more information about the S&P 500® Growth Index, please see “Equity Index Descriptions — The S&P Style Indices” in this underlying supplement. The IVW Fund is an investment portfolio of iShares® Trust. The IVW Fund trades on the NYSE Arca under the ticker symbol “IVW.”

### **The iShares® S&P 500 Value ETF**

The iShares® S&P 500 Value ETF (the “**IVE Fund**”) seeks to track the investment results, before fees and expenses, of an index composed of large-capitalization U.S. equities that exhibit value characteristics, which is currently the S&P 500® Value Index. For more information about the S&P 500® Value Index, please see “Equity Index Descriptions — The S&P Style Indices” in this underlying supplement. The IVE Fund is an investment portfolio of iShares® Trust. The IVE Fund trades on the NYSE Arca under the ticker symbol “IVE.”

### **The iShares® Semiconductor ETF**

The iShares® Semiconductor ETF (the “**SOXX Fund**”) seeks to track the investment results, before fees and expenses, of an index composed of U.S.-listed equities in the semiconductor sector, which is currently the NYSE Semiconductor Index. The NYSE Semiconductor Index is a modified float-adjusted

market capitalization-weighted index that is designed to track the performance of the thirty largest qualifying U.S.-listed companies classified according to the ICE Uniform Sector Classification schema within the semiconductors industry (as determined by ICE Data Indices, LLC or its affiliates) which include companies that either manufacture materials that have electrical conductivity (semiconductors) to be used in electronic applications or utilize LED and OLED technology and companies that provide services or equipment associated with semiconductors such as packaging and testing. The SOXX Fund is an investment portfolio of iShares® Trust. The SOXX Fund trades on Nasdaq under the ticker symbol “SOXX.”

### **The iShares® U.S. Real Estate ETF**

The iShares® U.S. Real Estate ETF (the “**IYR Fund**”) seeks to track the investment results, before fees and expenses, of an index composed of U.S. equities in the real estate sector, which is currently the Dow Jones U.S. Real Estate Capped Index. The Dow Jones U.S. Real Estate Capped Index is a float-adjusted market capitalization-weighted index that is designed to track the performance of real estate investment trusts (“**REITs**”) and other companies that invest directly or indirectly in real estate through development, management or ownership, including property agencies, with a cap applied to ensure diversification among constituents. The IYR Fund is an investment portfolio of iShares® Trust. The IYR Fund trades on the NYSE Arca under the ticker symbol “IYR.”

## THE iSHARES® SILVER TRUST

All information contained in this underlying supplement regarding the iShares® Silver Trust (the “**Silver Trust**”) has been derived from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by, the sponsor of the Silver Trust, iShares Delaware Trust Sponsor LLC (“**iShares Delaware**”), an indirect subsidiary of BlackRock, Inc. The Bank of New York Mellon is the trustee of the Silver Trust, and JPMorgan Chase Bank, N.A., London branch, is the custodian of the Silver Trust. The Silver Trust is an investment trust that trades on the NYSE Arca, Inc. under the ticker symbol “SLV.”

The Silver Trust seeks to reflect generally the performance of the price of silver before the payment of its expenses and liabilities. The assets of the Silver Trust consist primarily of silver held by the custodian on behalf of the Silver Trust. The Silver Trust issues blocks of shares in exchange for deposits of silver and distributes silver in connection with the redemption of blocks of shares. The shares of the Silver Trust are intended to constitute a simple and cost-effective means of making an investment similar to an investment in silver.

The shares of the Silver Trust represent units of fractional undivided beneficial interest in and ownership of the Silver Trust. The Silver Trust is a passive investment vehicle and the trustee of the Silver Trust does not actively manage the silver held by the Silver Trust. The trustee of the Silver Trust sells silver held by the Silver Trust to pay the Silver Trust’s expenses on an as-needed basis irrespective of then-current silver prices. Currently, the Silver Trust’s only ordinary recurring expense is expected to be iShares Delaware’s fee, which is accrued daily at an annualized rate equal to 0.50% of the net asset value of the Silver Trust and is payable monthly in arrears. The trustee of the Silver Trust will, when directed by iShares Delaware, and, in the absence of such direction, may, in its discretion, sell silver in such quantity and at such times as may be necessary to permit payment of iShares Delaware’s fee and of expenses or liabilities of the Silver Trust not assumed by iShares Delaware. As a result of the recurring sales of silver necessary to pay the Silver Trust sponsor’s fee and the Silver Trust expenses or liabilities not assumed by the Silver Trust sponsor, the net asset value of the Silver Trust will decrease over the life of the Silver Trust. New deposits of silver, received in exchange for additional new issuances of shares by the Trust, do not reverse this trend.

Information provided to or filed with the SEC by the Silver Trust pursuant to the Securities Act of 1933, as amended, and the Securities Exchange Act of 1934, as amended, can be located by reference to SEC file numbers 333-268747 and 001-32863, respectively, through the SEC’s website at <http://www.sec.gov>. The Silver Trust is not a mutual fund or any other type of investment company within the meaning of the Investment Company Act of 1940, as amended, and is not subject to regulation thereunder. The Silver Trust is not a commodity pool for purposes of the Commodity Exchange Act, as amended, and is not subject to regulation thereunder, and iShares Delaware is not subject to regulation by the Commodity Futures Trading Commission as a commodity pool operator or a commodity trading advisor.

### **Silver**

The price of silver is primarily affected by global demand for and supply of silver. Silver prices can fluctuate widely and may be affected by numerous factors. These include general economic trends, increases in silver hedging activity by silver producers, significant changes in attitude by speculators and investors in silver, technical developments, substitution issues and regulation, as well as specific factors including industrial and jewelry demand, expectations with respect to the rate of inflation, the relative strength of the U.S. dollar (the currency in which the price of silver is generally quoted) and other currencies, interest rates, central bank sales, forward sales by producers, global or regional political or economic events and production costs and disruptions in major silver-producing countries, such as Mexico, China and Peru. The demand for and supply of silver affect silver prices, but not necessarily in the same manner as supply and demand affect the prices of other commodities. The supply of silver consists of a combination of new mine production and existing stocks of bullion and fabricated silver held by governments, public and private financial institutions, industrial organizations and private individuals. In addition, the price of silver has on occasion been subject to very rapid short-term changes due to speculative activities. From time to time, above-ground inventories of silver may also influence the

market. The major end uses for silver include industrial applications, jewelry and silverware. It is not possible to predict the aggregate effect of all or any combination of these factors.

## THE KRANESHARES CSI CHINA INTERNET ETF

All information contained in this underlying supplement regarding the KraneShares CSI China Internet ETF (the “**KWEB** Fund”) has been derived from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by, KraneShares Trust and Krane Funds Advisors, LLC (“**Krane**”). The KWEB Fund is an investment portfolio of KraneShares Trust. Krane is currently the investment adviser to the KWEB Fund. The KWEB Fund is an exchange-traded fund that trades on the NYSE Arca, Inc. under the ticker symbol “KWEB.”

The KWEB Fund seeks to provide investment results that, before fees and expenses, correspond generally to the price and yield performance of a foreign equity securities index, which is currently the CSI Overseas China Internet Index (the “**China Internet Index**”). The China Internet Index is a modified free float-adjusted market capitalization-weighted index that is designed to measure the equity market performance of investable publicly traded “China-based companies” whose primary business or businesses are in the Internet and Internet-related sectors and that are listed outside of mainland China.

Although the KWEB Fund expects to replicate (or hold all components of) the China Internet Index, the KWEB Fund reserves the right to use representative sampling to track the China Internet Index. “Representative sampling” is a strategy that involves investing in a representative sample of securities that collectively have an investment profile similar to the China Internet Index. The KWEB Fund may or may not hold all of the securities in the China Internet Index when using a representative sampling indexing strategy.

Tracking error refers to the risk that the KWEB Fund’s performance may not match or correlate to that of the China Internet Index, either on a daily or aggregate basis. Tracking error may cause the KWEB Fund’s performance to be less than expected. There are a number of factors that may contribute to the KWEB Fund’s tracking error, such as KWEB Fund expenses, imperfect correlation between the KWEB Fund’s investments and those of the China Internet Index, the use of representative sampling strategy, if applicable, asset valuation differences, any transaction costs incurred by the KWEB Fund, differences in timing of the accrual or the valuation of dividends or interest received by the KWEB Fund or distributions paid to the KWEB Fund’s shareholders, tax considerations, the unavailability of securities in the China Internet Index from time to time, holding cash and cash equivalents, and other liquidity constraints. In addition, securities included in the China Internet Index may be suspended from trading. To the extent the KWEB Fund calculates its net asset value based on fair value prices and the value of the China Internet Index is based on securities’ closing prices on local foreign markets, the KWEB Fund’s ability to track the China Internet Index may be adversely affected. Mathematical compounding may prevent the KWEB Fund from correlating with the monthly, quarterly, annual or other period performance of the China Internet Index. In addition, the KWEB Fund may not invest in certain securities and other instruments included in the China Internet Index, or invest in them in the exact proportions they represent of the China Internet Index, including due to legal restrictions or limitations imposed by a foreign government or a lack of liquidity in certain securities. Moreover, the KWEB Fund may be delayed in purchasing or selling securities and other instruments included in the China Internet Index. Any issues the KWEB Fund encounters with regard to currency convertibility (including the cost of borrowing funds, if any) and repatriation may also increase the KWEB Fund’s tracking error. This risk may be heightened during times of increased market volatility or other unusual market conditions.

KraneShares Trust is a registered investment company that consists of numerous separate investment portfolios, including the KWEB Fund. Information provided to or filed with the SEC by KraneShares Trust pursuant to the Securities Act of 1933, as amended, and the Investment Company Act of 1940, as amended, can be located by reference to SEC file numbers 333-180870 and 811-22698 through the SEC’s website at <http://www.sec.gov>.

## THE ROUNDHILL MAGNIFICENT SEVEN ETF

All information contained in this underlying supplement regarding the Roundhill Magnificent Seven ETF (the “**Magnificent Seven ETF**”) has been derived from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by, Roundhill Financial Inc. (the “**Adviser**”). The Fund is an actively managed exchanged-traded fund (“**ETF**”) managed by the Adviser and Exchange Traded Concepts, LLC (the “**Sub-Adviser**”). The Magnificent Seven ETF trades on CBOE BZE Exchange, Inc. under the ticker symbol “MAGS.”

The investment objective of the Magnificent Seven ETF is growth of capital. The Magnificent Seven ETF seeks to achieve its investment objective through its investment exposure to companies comprising the “Magnificent Seven,” a group of seven companies commonly recognized for their market dominance in technological innovation.

The Magnificent Seven ETF rebalances its exposure quarterly so that exposure to each company comprising the Magnificent Seven is equally weighted in its portfolio. To the extent the companies that comprise the Magnificent Seven change, the Magnificent Seven ETF will seek to effect such change as soon as is reasonably practical, but in no event later than its next regularly-scheduled quarterly rebalance. The Magnificent Seven ETF primarily gains exposure to the “Magnificent Seven” companies through its investment in swap agreements and/or forward contracts. However, the Magnificent Seven ETF will also invest directly in the equity securities issued by such companies.

The Sub-Advisor positions the Magnificent Seven ETF’s portfolio daily to seek exposure to the Magnificent Seven companies to the fullest extent possible consistent with the Magnificent Seven ETF’s investment objective. The Magnificent Seven ETF will invest, under normal circumstances, at least 80% of its assets (*plus* borrowings for investment purposes) in financial instruments and other investments that provide exposure to, or in combination have economic characteristics similar or equivalent to those of, the largest (i.e., top quartile by market capitalization, revenue, profit, market share or other similar metric) companies in one or more Technology Industries (defined by an independent industry classification scheme as the following industries: the Automotive Industry, the Technology Hardware Industry, the E-Commerce Discretionary Industry, the Internet Media & Services Industry, the Semiconductors Industry and the Software Industry).

From time to time, the Magnificent Seven ETF may invest in shares of another ETF managed by the Adviser (“**Affiliated ETF**”) when the Adviser believes such investment will help the Magnificent Seven ETF to achieve its investment objective. In such an instance, the Adviser may be subject to a conflict of interest because the Adviser would receive management fees from the Affiliated ETF in addition to a management fee from the Magnificent Seven ETF.

As an actively managed fund, the Magnificent Seven ETF is subject to management risk. The Magnificent Seven ETF may not meet its investment objective based on the Adviser’s and Sub-Adviser’s success or failure to implement the Magnificent Seven ETF’s strategies and to efficiently execute investment transactions, respectively. The Magnificent Seven ETF invests in derivatives instruments, which may create enhanced risks for the Magnificent Seven ETF and the Adviser’s ability to control the Magnificent Seven ETF’s level of risk will depend on the Adviser’s skill in managing such instruments. In addition, the Adviser’s evaluations and assumptions regarding investments, interest rates, inflation and other factors may not successfully achieve the Magnificent Seven ETF’s investment objective given actual market conditions.

Listed Funds Trust is a registered investment company that consists of numerous separate investment portfolios, including the Magnificent Seven ETF. Information provided to or filed with the SEC by Listed Funds Trust pursuant to the Securities Act of 1933, as amended, and the Investment Company Act of 1940, as amended, can be located by reference to SEC file numbers 333-215588 and 811-23226, respectively, through the SEC’s website at <http://www.sec.gov>.

## THE STATE STREET® SELECT SECTOR SPDR® ETFS

All information contained in this underlying supplement regarding the State Street® Select Sector SPDR® ETFs set forth in the table below (each, a “**Select Sector SPDR® Fund**” and collectively, the “**Select Sector SPDR® Funds**”) has been derived from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by, the Select Sector SPDR® Trust (the “**Select Sector Trust**”) and SSGA Funds Management, Inc. (“**SSGA FM**”). Each Select Sector SPDR® Fund is an investment portfolio maintained and managed by SSGA FM, the investment advisor to the Select Sector SPDR® Funds. Each Select Sector SPDR® Fund is an exchange-traded fund (“**ETF**”) that trades on the NYSE Arca, Inc. under the ticker symbol set forth in the table below.

Each Select Sector SPDR® Fund seeks to provide investment results that, before expenses, correspond generally to the price and yield performance of publicly traded equity securities of companies included in a Select Sector Index, as specified in the table below. The companies included in each Select Sector Index are selected on the basis of general industry classifications from a universe of companies defined by the S&P 500® Index. For more information about the Select Sector Indices, please see “Equity Index Descriptions — The S&P Select Sector Indices” in this underlying supplement.

<b>Select Sector SPDR® Fund</b>	<b>Ticker</b>	<b>Select Sector Index</b>
State Street® Communication Services Select Sector SPDR® ETF	XLC	Communication Services Select Sector Index
State Street® Consumer Discretionary Select Sector SPDR® ETF	XLY	Consumer Discretionary Select Sector Index
State Street® Consumer Staples Select Sector SPDR® ETF	XLP	Consumer Staples Select Sector Index
State Street® Energy Select Sector SPDR® ETF	XLE	Energy Select Sector Index
State Street® Financial Select Sector SPDR® ETF	XLF	Financial Select Sector Index
State Street® Health Care Select Sector SPDR® ETF	XLV	Health Care Select Sector Index
State Street® Industrial Select Sector SPDR® ETF	XLI	Industrials Select Sector Index
State Street® Materials Select Sector SPDR® ETF	XLB	Materials Select Sector Index
State Street® Real Estate Select Sector SPDR® ETF	XLRE	Real Estate Select Sector Index
State Street® Technology Select Sector SPDR® ETF	XLK	Technology Select Sector Index
State Street® Utilities Select Sector SPDR® ETF	XLU	Utilities Select Sector Index

In seeking to track the performance of the relevant Select Sector Index, each Select Sector SPDR® Fund employs a replication strategy, which means that each Select Sector SPDR® Fund typically invests in substantially all of the securities represented in the relevant Select Sector Index in approximately the same proportions as that Select Sector Index. However, under various circumstances, it may not be possible or practical to purchase all of the securities in the relevant Select Sector Index, or amounts of those securities in proportion to their weighting in that Select Sector Index. Under these circumstances, SSGA FM intends to employ a sampling strategy in managing the relevant Select Sector SPDR® Fund. Sampling means that SSGA FM will use quantitative analysis to select securities, including securities in the relevant Select Sector Index, outside of the relevant Select Sector Index and derivatives that have a similar investment profile as the relevant Select Sector Index in terms of key risk factors, performance attributes and other economic characteristics. These include industry weightings, market capitalization and other financial characteristics of securities.

While SSGA FM seeks to track the performance of the relevant Select Sector Index (*i.e.*, achieve a high degree of correlation with the relevant Select Sector Index), each Select Sector SPDR® Fund's return may not match the return of the relevant Select Sector Index due to operating expenses, transaction costs, cash flows, regulatory requirements and operational inefficiencies.

The Select Sector Trust is a registered investment company that consists of a separate investment portfolio for each of the Select Sector SPDR® Funds. Information provided to or filed with the SEC by the Select Sector Trust pursuant to the Securities Act of 1933, as amended, and the Investment Company Act of 1940, as amended, can be located by reference to SEC file numbers 333-57791 and 811-08837, respectively, through the SEC's website at <http://www.sec.gov>.

## THE STATE STREET® SPDR® DOW JONES INDUSTRIAL AVERAGE® ETF TRUST

All information contained in this underlying supplement regarding the State Street® SPDR® Dow Jones Industrial Average® ETF Trust (the “**DIA Fund**”) has been derived from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by, State Street Global Advisors Trust Company (“**SSGA TC**”), as trustee of the DIA Fund, and PDR Services LLC (“**PDRS**”), as sponsor of the DIA Fund. The DIA Fund is a unit investment trust that issues securities called “Units.” The DIA Fund trades on NYSE Arca, Inc. under the ticker symbol “DIA.”

The DIA Fund seeks to provide investment results that, before expenses, correspond generally to the price and yield performance of the Dow Jones Industrial Average®. For more information about the Dow Jones Industrial Average®, please see “Equity Index Descriptions — The Dow Jones Industrial Average®” in this underlying supplement.

The DIA Fund seeks to achieve its investment objective by holding a portfolio of the common stocks that are included in the Dow Jones Industrial Average®, with the weight of each stock in the portfolio substantially corresponding to the weight of that stock in the Dow Jones Industrial Average®. At any time, the portfolio of the DIA Fund will consist of as many of the component stocks of the Dow Jones Industrial Average® as is practicable. To maintain the correspondence between the composition and weightings of the stocks held by the DIA Fund and the component stocks of the Dow Jones Industrial Average®, SSGA TC or its parent company, State Street Bank and Trust Company (“**SSBT**”) adjusts the portfolio of the DIA Fund from time to time to conform to periodic changes in the identity and/or relative weightings of the component stocks of the Dow Jones Industrial Average®. SSGA TC or SSBT generally makes these adjustments to the portfolio of the DIA Fund within 3 NYSE business days (which are days on which the New York Stock Exchange is open for business) before or after the day on which changes in the Dow Jones Industrial Average® are scheduled to take effect.

While the DIA Fund is intended to track the performance of the Dow Jones Industrial Average® as closely as possible (*i.e.*, to achieve a high degree of correlation with the Dow Jones Industrial Average®), the DIA Fund’s return may not match or achieve a high degree of correlation with the return of the Dow Jones Industrial Average® due to expenses and transaction costs incurred in adjusting the DIA Fund’s portfolio. In addition, it is possible that the DIA Fund may not always fully replicate the performance of the Dow Jones Industrial Average® due to the unavailability of certain component stocks of the Dow Jones Industrial Average® in the secondary market or due to other extraordinary circumstances (*e.g.*, if trading in a security has been halted). In addition, the DIA Fund’s portfolio may deviate from the Dow Jones Industrial Average® to the extent required to ensure continued qualification as a “regulated investment company” under Subchapter M of the Internal Revenue Code of 1986, as amended.

The DIA Fund is a registered investment company. Information provided to or filed with the SEC by the DIA Fund pursuant to the Securities Act of 1933, as amended, and the Investment Company Act of 1940, as amended, can be located by reference to SEC file numbers 333-31247 and 811-09170, respectively, through the SEC’s website at <http://www.sec.gov>.

## THE STATE STREET® SPDR® EURO STOXX 50® ETF

All information contained in this underlying supplement regarding the State Street® SPDR® EURO STOXX 50® ETF (the “**FEZ Fund**”) has been derived from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by, SSGA Funds Management, Inc. (“**SSGA FM**”), the investment adviser for the FEZ Fund. The FEZ Fund is an investment portfolio maintained and managed by SSGA FM. The FEZ Fund is an exchange-traded fund that trades on the NYSE Arca, Inc. under the ticker symbol “FEZ.”

The FEZ Fund seeks to provide investment results that, before fees and expenses, correspond generally to the total return performance of the EURO STOXX 50® Index. For more information about the EURO STOXX 50® Index, please see “Equity Index Descriptions — The STOXX Benchmark Indices” in this underlying supplement.

In seeking to track the performance of the EURO STOXX 50® Index, the FEZ Fund employs a sampling strategy, which means that the FEZ Fund is not required to purchase all of the securities represented in the EURO STOXX 50® Index. Instead, the FEZ Fund may purchase a subset of the securities in the EURO STOXX 50® Index in an effort to hold a portfolio of securities with generally the same risk and return characteristics of the EURO STOXX 50® Index. The quantity of holdings in the FEZ Fund will be based on a number of factors, including asset size of the FEZ Fund. Based on its analysis of these factors, SSGA FM either may invest the FEZ Fund’s assets in a subset of securities in the EURO STOXX 50® Index or may invest the FEZ Fund’s assets in substantially all of the securities represented in the EURO STOXX 50® Index in approximately the same proportions as the EURO STOXX 50® Index.

While SSGA FM seeks to track the performance of the EURO STOXX 50® Index (*i.e.*, achieve a high degree of correlation with the EURO STOXX 50® Index), the FEZ Fund’s return may not match the return of the EURO STOXX 50® Index. The FEZ Fund incurs a number of operating expenses not applicable to the EURO STOXX 50® Index, and may incur costs in buying and selling securities. In addition, the FEZ Fund may not be fully invested at times, generally as a result of cash flows into or out of the FEZ Fund or reserves of cash held by the FEZ Fund to meet redemptions. SSGA FM may attempt to track the EURO STOXX 50® Index return by investing in fewer than all of the securities in the EURO STOXX 50® Index, or in some securities not included in the EURO STOXX 50® Index, potentially increasing the risk of divergence between the FEZ Fund’s return and that of the EURO STOXX 50® Index.

SPDR® Index Shares Funds is a registered investment company that consists of numerous separate investment portfolios, including the FEZ Fund. Information provided to or filed with the SEC by the FEZ Fund pursuant to the Securities Act of 1933, as amended, and the Investment Company Act of 1940, as amended, can be located by reference to SEC file numbers 333-92106 and 811-21145, respectively, through the SEC’s website at <http://www.sec.gov>.

## THE SPDR® GOLD TRUST

All information contained in this underlying supplement regarding the SPDR® Gold Trust (the “**Gold Trust**”) has been derived from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by, the Gold Trust and World Gold Trust Services, LLC (“**World Gold**”), the sponsor of the Gold Trust. BNY Mellon Asset Servicing, a division of The Bank of New York Mellon, is the trustee of the Gold Trust, and JPMorgan Chase Bank, N.A., London branch and HSBC Bank plc are the custodians of the Gold Trust. The Gold Trust is an investment trust that trades on the NYSE Arca, Inc. under the ticker symbol “GLD.”

The investment objective of the Gold Trust is for its shares to reflect the performance of the price of gold bullion, less the Gold Trust’s expenses. The Gold Trust holds gold bars and from time to time, issues blocks of shares in exchange for deposits of gold and distributes gold in connection with the redemption of blocks of shares. The shares of the Gold Trust are designed for investors who want a cost-effective and convenient way to invest in gold.

The shares of the Gold Trust represent units of fractional undivided beneficial interest in and ownership of the Gold Trust. The Gold Trust is a passive investment vehicle and the trustee of the Gold Trust does not actively manage the gold held by the Gold Trust. The trustee of the Gold Trust sells gold held by the Gold Trust to pay the Gold Trust’s expenses on an as-needed basis irrespective of then-current gold prices. Currently, the Gold Trust’s only recurring fixed expense is World Gold’s fee which accrues daily at an annual rate equal to 0.40% of the daily net asset value of the Gold Trust, in exchange for World Gold assuming the responsibility to pay all ordinary fees and expenses of the Gold Trust.

Information provided to or filed with the SEC by the Gold Trust pursuant to the Securities Act of 1933, as amended, and the Securities Exchange Act of 1934, as amended, can be located by reference to SEC file numbers 333-263087 and 001-32356, respectively, through the SEC’s website at <http://www.sec.gov>. The Gold Trust is not a mutual fund or any other type of investment company within the meaning of the Investment Company Act of 1940, as amended, and is not subject to regulation thereunder. The Gold Trust is not a commodity pool for purposes of the Commodity Exchange Act, as amended, and is not subject to regulation thereunder, and World Gold is not subject to regulation by the Commodity Futures Trading Commission as a commodity pool operator, or a commodity trading advisor.

### Gold

The price of gold is primarily affected by the global demand for and supply of gold. The market for gold bullion is global, and gold prices are subject to volatile price movements over short periods of time and are affected by numerous factors, including macroeconomic factors such as the structure of and confidence in the global monetary system, expectations regarding the future rate of inflation, the relative strength of, and confidence in, the U.S. dollar (the currency in which the price of gold is usually quoted), interest rates, gold borrowing and lending rates and global or regional economic, financial, political, regulatory, judicial or other events, especially those of unexpected nature. Gold prices may be affected by industry factors, such as industrial and jewelry demand as well as lending, sales and purchases of gold by the official sector, including central banks and other governmental agencies and multilateral institutions that hold gold. Additionally, gold prices may be affected by levels of gold production, production costs and short-term changes in supply and demand due to trading activities in the gold market. From time to time, above-ground inventories of gold may also influence the market. It is not possible to predict the aggregate effect of all or any combination of these factors. The price of gold has recently been, and may continue to be, extremely volatile.

## THE STATE STREET® SPDR® S&P 500® ETF TRUST

All information contained in this underlying supplement regarding the State Street® SPDR® S&P 500® ETF Trust (the “**SPY Fund**”) has been derived from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by, State Street Global Advisors Trust Company (“**SSGA TC**”), as trustee of the SPY Fund, and PDR Services LLC (“**PDRS**”), as sponsor of the SPY Fund. The SPY Fund is a unit investment trust that issues securities called “Units.” The SPY Fund trades on the NYSE Arca, Inc. under the ticker symbol “SPY.”

The SPY Fund seeks to provide investment results that, before expenses, correspond generally to the price and yield performance of the S&P 500® Index. For more information about the S&P 500® Index, please see “Equity Index Descriptions — The S&P U.S. Indices” in this underlying supplement.

The SPY Fund seeks to achieve its investment objective by holding a portfolio of common stocks that are included in the S&P 500® Index, with the weight of each stock in the portfolio substantially corresponding to the weight of that stock in the S&P 500® Index. At any time, the portfolio of the SPY Fund will consist of as many of the component stocks of the S&P 500® Index as is practicable. To maintain the correspondence between the composition and weightings of the stocks held by the SPY Fund and the component stocks of the S&P 500® Index, SSGA TC, or its parent company, State Street Bank and Trust Company (“**SSBT**”), adjusts the portfolio of the SPY Fund from time to time to conform to periodic changes in the identity and/or relative weightings of the component stocks of the S&P 500® Index. SSGA TC or SSBT aggregates certain of these adjustments and makes changes to the portfolio of the SPY Fund at least monthly, or more frequently in the case of significant changes to the S&P 500® Index.

While the SPY Fund is intended to track the performance of the S&P 500® Index as closely as possible (*i.e.*, to achieve a high degree of correlation with the S&P 500® Index), the return of the SPY Fund may not match or achieve a high degree of correlation with the return of the S&P 500® Index due to expenses and transaction costs incurred in adjusting the SPY Fund’s portfolio. In addition, it is possible that the SPY Fund may not always fully replicate the performance of the S&P 500® Index due to the unavailability of certain component stocks of the S&P 500® Index in the secondary market or due to other extraordinary circumstances (*e.g.*, if trading in a security has been halted).

The SPY Fund is a registered investment company. Information provided to or filed with the SEC by the SPY Fund pursuant to the Securities Act of 1933, as amended, and the Investment Company Act of 1940, as amended, can be located by reference to SEC file numbers 033-46080 and 811-06125, respectively, through the SEC’s website at <http://www.sec.gov>.

## THE STATE STREET® SPDR® S&P® INDUSTRY ETFS

All information contained in this underlying supplement regarding the State Street® SPDR® S&P® Industry ETFs set forth in the table below (each, a “**SPDR® S&P® Industry ETF**” and collectively, the “**SPDR® S&P® Industry ETFs**”) has been derived from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by, the SPDR® Series Trust and SSGA Funds Management, Inc. (“**SSGA FM**”). Each SPDR® S&P® Industry ETF is an investment portfolio maintained and managed by SSGA FM, the investment advisor to the SPDR® S&P® Industry ETFs. Each SPDR® S&P® Industry ETF is an exchange-traded fund (“**ETF**”) that trades on the NYSE Arca, Inc. under the ticker symbol set forth in the table below.

Each SPDR® S&P® Industry ETF is an index fund that invests in a particular industry or group of industries represented by an S&P Select Industry Index (each, a “**Select Industry Index**” and collectively, the “**Select Industry Indices**”) as specified in the table below. The companies included in each Select Industry Index are selected from a universe of companies defined by the S&P® Total Market Index, a U.S. total market composite index, on the basis of their Global Industry Classification Standard classification and liquidity and market capitalization requirements. The investment objective of each SPDR® S&P® Industry ETF is to provide investment results that, before fees and expenses, correspond generally to the total return performance of an index that tracks the performance of a particular industry or group of industries, as represented by a specified Select Industry Index. For more information about the Select Industry Indices, please see “Equity Index Descriptions — The S&P Select Industry Indices” in this underlying supplement.

<b>SPDR® S&amp;P® Industry ETF</b>	<b>Ticker</b>	<b>Select Industry Index</b>
State Street® SPDR® S&P® Bank ETF	KBE	S&P® Banks Select Industry Index
State Street® SPDR® S&P® Biotech ETF	XBI	S&P® Biotechnology Select Industry Index
State Street® SPDR® S&P® Homebuilders ETF	XHB	S&P® Homebuilders Select Industry™ Index
State Street® SPDR® S&P® Metals & Mining ETF	XME	S&P® Metals & Mining Select Industry Index
State Street® SPDR® S&P® Oil & Gas Exploration & Production ETF	XOP	S&P® Oil & Gas Exploration & Production Select Industry Index
State Street® SPDR® S&P® Regional Banking ETF	KRE	S&P® Regional Banks Select Industry Index
State Street® SPDR® S&P® Retail ETF	XRT	S&P® Retail Select Industry Index

In seeking to track the performance of the relevant Select Industry Index, each SPDR® S&P® Industry ETF employs a “sampling” strategy, which means that the SPDR® S&P® Industry ETF is not required to purchase all of the securities represented in the relevant Select Industry Index. Instead, each SPDR® S&P® Industry ETF may purchase a subset of the securities in the relevant Select Industry Index in an effort to hold a portfolio of securities with generally the same risk and return characteristics as the relevant Select Industry Index. The quantity of holdings in each SPDR® S&P® Industry ETF will be based on a number of factors, including asset size of that SPDR® S&P® Industry ETF. Based on its analysis of these factors, SSGA FM may invest each SPDR® S&P® Industry ETF’s assets in a subset of securities in the relevant Select Industry Index or may invest that SPDR® S&P® Industry ETF’s assets in substantially all of the securities represented in the relevant Select Industry Index in approximately the same proportions as the relevant Select Industry Index, as determined by SSGA FM to be in the best interest of that SPDR® S&P® Industry ETF in pursuing its objective.

While SSGA FM seeks to track the performance of the relevant Select Industry Index (*i.e.*, achieve a high degree of correlation with the relevant Select Industry Index), a SPDR® S&P® Industry ETF’s return may not match the return of the relevant Select Industry Index for a number of reasons. For example, the return on the sample of securities purchased by a SPDR® S&P® Industry ETF (or the return on securities

not included in the relevant Select Industry Index) may not correlate precisely with the return of that Select Industry Index. Each SPDR® S&P® Industry ETF incurs a number of operating expenses not applicable to the relevant Select Industry Index and may incur costs in buying and selling securities. In addition, a SPDR® S&P® Industry ETF may not be fully invested at times, generally as a result of cash flows into or out of that SPDR® S&P® Industry ETF or reserves of cash held by that SPDR® S&P® Industry ETF to meet redemptions. SSGA FM may attempt to track the relevant Select Industry Index's return by investing in fewer than all of the securities in that Select Industry Index, or in some securities not included in that Select Industry Index, potentially increasing the risk of divergence between a SPDR® S&P® Industry ETF's return and that of the relevant Select Industry Index. Changes in the composition of the relevant Select Industry Index and regulatory requirements also may impact a SPDR Industry ETF's ability to match the return of the relevant Select Industry Index. SSGA FM may apply one or more "screens" or investment techniques to refine or limit the number or types of issuers included in the relevant Select Industry Index in which a SPDR® S&P® Industry ETF may invest. Application of such screens or techniques may result in investment performance below that of the relevant Select Industry Index and may not produce results expected by SSGA FM. Index tracking risk may be heightened during times of increased market volatility or other unusual market conditions.

The SPDR® Series Trust is a registered investment company that consists of a separate investment portfolio for each SPDR® S&P® Industry ETF. Information provided to or filed with the SEC by the SPDR® Series Trust pursuant to the Securities Act of 1933, as amended, and the Investment Company Act of 1940, as amended, can be located by reference to SEC file numbers 333-57793 and 811-08839, respectively, through the SEC's website at <http://www.sec.gov>.

## THE STATE STREET® SPDR® S&P MIDCAP 400® ETF TRUST

All information contained in this underlying supplement regarding the State Street® SPDR® S&P MIDCAP 400® ETF Trust (the “**MDY Fund**”) has been derived from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by, The Bank of New York Mellon (“**BNYM**”), as trustee of the MDY Fund, and PDR Services LLC (“**PDRS**”), as sponsor of the MDY Fund. The MDY Fund is a unit investment trust that issues securities called “Units.” The MDY Fund trades on the NYSE Arca, Inc. under the ticker symbol “MDY.”

The MDY Fund seeks to provide investment results that, before expenses, correspond generally to the price and yield performance of the S&P MidCap 400® Index. For more information about the S&P MidCap 400® Index, please see “Equity Index Descriptions — The S&P U.S. Indices” in this underlying supplement.

The MDY Fund seeks to achieve its investment objective by holding a portfolio of common stocks that are included in the S&P MidCap 400® Index, with the weight of each stock in the portfolio substantially corresponding to the weight of that stock in the S&P MidCap 400® Index. At any time, the portfolio of the MDY Fund will consist of as many of the component stocks of the S&P MidCap 400® Index as is practicable. To maintain the correspondence between the composition and weightings of the stocks held by the MDY Fund and the component stocks of the S&P MidCap 400® Index, BNYM adjusts the portfolio of the MDY Fund from time to time to conform to periodic changes in the identity and/or relative weightings of the component stocks of the S&P MidCap 400® Index. BNYM aggregates certain of these adjustments and makes changes to the portfolio of the MDY Fund at least monthly, or more frequently in the case of significant changes to the S&P MidCap 400® Index.

While the MDY Fund is intended to track the performance of the S&P MidCap 400® Index as closely as possible (*i.e.*, to achieve a high degree of correlation with the S&P MidCap 400® Index), the return of the MDY Fund may not match or achieve a high degree of correlation with the return of the S&P MidCap 400® Index due to expenses and transaction costs incurred in adjusting the MDY Fund’s portfolio. In addition, it is possible that the MDY Fund may not always fully replicate the performance of the S&P MidCap 400® Index due to the unavailability of certain component stocks of the S&P MidCap 400® Index in the secondary market or due to other extraordinary circumstances (*e.g.*, if trading in a security has been halted).

The MDY Fund is a registered investment company. Information provided to or filed with the SEC by the MDY Fund pursuant to the Securities Act of 1933, as amended, and the Investment Company Act of 1940, as amended, can be located by reference to SEC file numbers 033-89088 and 811-08972, respectively, through the SEC’s website at <http://www.sec.gov>.

## THE U.S. GLOBAL JETS ETF

All information contained in this underlying supplement regarding the U.S. Global Jets ETF (the “**JETS Fund**”) has been derived from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by, ETF Series Solutions and U.S. Global Investors, Inc. (“**U.S. Global Investors**”). The JETS Fund is an investment portfolio managed by U.S. Global Investors, the investment adviser to the JETS Fund. The JETS Fund is an exchange-traded fund that trades on NYSE Arca, Inc. under the ticker symbol “JETS.”

The JETS Fund seeks to track the performance, before fees and expenses, of the U.S. Global Jets Index (the “**JETSX Index**”). The JETSX Index is composed of the exchange-listed common stock (or depository receipts) of U.S. and international passenger airlines, aircraft manufacturers, airports, terminal services companies and airline-related internet media and services companies (e.g., websites for purchasing airline tickets). The JETSX Index may include small-, mid- and large-capitalization companies.

The JETS Fund uses a “passive management” (or indexing) approach to track the performance, before fees and expenses, of the JETSX Index. The JETS Fund will generally use a “replication” strategy to achieve its investment objective, meaning it generally will invest in all of the component securities of the JETSX Index in approximately the same proportion as in the JETSX Index. However, the JETS Fund may use a “representative sampling” strategy, meaning it may invest in a sample of the securities in the JETSX Index whose risk, return and other characteristics closely resemble the risk, return and other characteristics of the JETSX Index as a whole, when U.S. Global Investors believes it is in the best interests of the JETS Fund (e.g., when replicating the JETSX Index involves practical difficulties or substantial costs, a JETSX Index constituent becomes temporarily illiquid, unavailable or less liquid or as a result of legal restrictions or limitations that apply to the JETS Fund but not to the JETSX Index).

The performance of the JETS Fund and the JETSX Index may differ from each other for a variety of reasons. For example, the JETS Fund incurs operating expenses and portfolio transaction costs not incurred by the JETSX Index. In addition, the JETS Fund may not be fully invested in the securities of the JETSX Index at all times or may hold securities not included in the JETSX Index.

ETF Series Solutions is a registered investment company that consists of numerous separate investment portfolios, including the JETS Fund. Information provided to or filed with the SEC by ETF Series Solutions pursuant to the Securities Act of 1933, as amended, and the Investment Company Act of 1940, as amended, can be located by reference to SEC file numbers 333-179562 and 811-22668, respectively, through the SEC’s website at <http://www.sec.gov>.

## THE UNITED STATES OIL FUND, LP

All information contained in this underlying supplement regarding the United States Oil Fund, LP (the “**USO Fund**”) has been derived from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by, United States Commodity Funds LLC (“**USCF**”). The USO Fund is managed and controlled by USCF, a Delaware limited liability company that is registered as a commodity pool operator with the Commodity Futures Trading Commission and is a member of the National Futures Association. The USO Fund, a Delaware limited partnership, is a commodity pool that continuously issues common shares of beneficial interest that trade on NYSE Arca, Inc. (the “**NYSE Arca**”) under the ticker symbol “USO.”

The investment objective of the USO Fund is for the daily changes in percentage terms of its shares’ net asset value to reflect the daily changes in percentage terms of the spot price of light, sweet crude oil delivered to Cushing, Oklahoma, as measured by the daily changes in the price of a specified short-term futures contract on light, sweet crude oil (the “**benchmark oil futures contract**”), plus interest earned on USO Fund’s collateral holdings, less the USO Fund’s expenses. The benchmark oil futures contract is the futures contract on light, sweet crude oil traded on the New York Mercantile Exchange (“**NYMEX**”) that is the near month contract to expire and changes, over a five-day period each month, into the NYMEX futures contract that is the next month contract to expire. The change from the near month contract to the next month contract occurs at the beginning of each month and will be approximately proportional, relative to the total net assets, over each day of the roll period.

The USO Fund seeks to achieve its investment objective by investing primarily in futures contracts for light, sweet crude oil, other types of crude oil, diesel-heating oil, gasoline, natural gas and other petroleum-based fuels that are traded on the NYMEX, ICE Futures Europe and ICE Futures U.S. or other U.S. and foreign exchanges (collectively, “**oil futures contracts**”) and, to a lesser extent, in order to comply with regulatory requirements, risk mitigation measures, liquidity requirements or in view of market conditions, other oil-related investments such as cash-settled options on oil futures contracts, forward contracts for oil, cleared swap contracts and non-exchange traded (or over-the-counter) transactions that are based on the price of oil, other petroleum-based fuels, oil futures contracts and indices based on the foregoing. The USO Fund seeks to achieve its investment objective by investing so that the average daily percentage change in its net asset value for any period of 30 successive valuation days will be within plus/minus ten percent (10%) of the average daily percentage change in the price of the benchmark oil futures contract over the same period.

The daily changes in the price of the USO Fund’s shares on the NYSE Arca on a percentage basis may not closely track the daily changes in the spot price of light, sweet crude oil on a percentage basis. This could happen if the price of the USO Fund’s shares traded on the NYSE Arca does not correlate closely with the value of the USO Fund’s net asset value; the changes in the USO Fund’s net asset value do not correlate closely with the changes in the price of the benchmark oil futures contract; or the changes in the price of the benchmark oil futures contract do not closely correlate with the changes in the cash or spot price of crude oil. The price relationship between the near month contract to expire and the next month contract to expire that compose the benchmark oil futures contract will vary and may impact the total return over time of the USO Fund’s net asset value. In cases in which the near month contract’s price is lower than the next month contract’s price (a situation known as “contango” in the futures markets), then absent the impact of the overall movement in crude oil prices, the value of the benchmark oil futures contract would tend to decline as it approaches expiration. In cases in which the near month contract’s price is higher than the next month contract’s price (a situation known as “backwardation” in the futures markets), then absent the impact of the overall movement in crude oil prices, the value of the benchmark contract would tend to rise as it approaches expiration.

Information provided to or filed with the SEC by the USO Fund pursuant to the Securities Act of 1933, as amended, and the Securities Exchange Act of 1934, as amended, can be located by reference to SEC file numbers 333-272617 and 001-32834, respectively, through the SEC’s website at <http://www.sec.gov>. The USO Fund is not a mutual fund or any other type of investment company within the meaning of the Investment Company Act of 1940, as amended, and is not subject to regulation thereunder.

## THE VANECK® ETFS

All information contained in this underlying supplement regarding the VanEck® Gold Miners ETF, the VanEck® Junior Gold Miners ETF, the VanEck® Oil Services ETF and the VanEck® Semiconductor ETF (each, a “**VanEck ETF**” and collectively, the “**VanEck ETFs**”) has been derived from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by, VanEck® ETF Trust (the “**VanEck Trust**”) and Van Eck Associates Corporation (“**Van Eck**”). Each VanEck ETF is an investment portfolio of the VanEck Trust. Van Eck is currently the investment advisor to the VanEck ETFs. Prior to September 2021, VanEck® was branded as VanEck Vectors®.

Each VanEck ETF, using a “passive” or indexing investment approach, attempts to approximate the investment performance of its underlying index by investing in a portfolio of securities that generally replicates its underlying index.

Each VanEck ETF's return may not match the return of its underlying index for a number of reasons. For example, each VanEck ETF incurs operating expenses, including taxes, not applicable to its underlying index and incurs costs associated with buying and selling securities and entering into derivatives transactions (if applicable), especially when rebalancing that VanEck ETF's securities holdings to reflect changes in the composition of its underlying index or (if applicable) raising cash to meet redemptions or deploying cash in connection with inflows into that VanEck ETF. Transaction costs, including brokerage costs, will decrease a VanEck ETF's net asset value (“**NAV**”). Conversely, a VanEck ETF may generate earnings through its securities lending activities, which may increase that VanEck ETF's return relative to its underlying index. Market disruptions and regulatory restrictions could have an adverse effect on a VanEck ETF's ability to adjust its exposure to the required levels in order to track its underlying index. A VanEck ETF may not be fully invested at times either as a result of cash flows into that VanEck ETF or reserves of cash held by that VanEck ETF to pay expenses or to meet redemptions. In addition, a VanEck ETF may not invest in certain securities included in its underlying index, or invest in them in the exact proportions in which they are represented in its underlying index. A VanEck ETF's performance may also deviate from the return of its underlying index for various reasons, including legal restrictions or limitations imposed by the governments of certain countries, certain exchange listing standards (where applicable), a lack of liquidity in markets in which the securities trade, potential adverse tax consequences or other regulatory reasons (such as diversification requirements). A VanEck ETF may value certain of its investments, underlying currencies and/or other assets based on fair value prices. To the extent a VanEck ETF calculates its NAV based on fair value prices and the value of its underlying index is based on securities' closing prices on local foreign markets (*i.e.*, the value of its underlying index is not based on fair value prices), that VanEck ETF's ability to track its underlying index may be adversely affected. In addition, any issues a VanEck ETF encounters with regard to currency convertibility (including the cost of borrowing funds, if any), repatriation or economic sanctions may also increase the index tracking risk. A VanEck ETF's performance may also deviate from the performance of its underlying index due to the impact of withholding taxes, late announcements relating to changes to its underlying index and high turnover of the underlying index. When markets are volatile, the ability to sell securities at fair value prices may be adversely impacted and may result in additional trading costs and/or increase the index tracking risk. A VanEck ETF may also need to rely on borrowings to meet redemptions, which may lead to increased expenses. For tax efficiency purposes, a VanEck ETF may sell certain securities, and this sale may cause that VanEck ETF to realize a loss and deviate from the performance of its underlying index. In light of the factors discussed above, a VanEck ETF's return may deviate significantly from the return of its underlying index. Changes to the composition of its underlying index in connection with a rebalancing or reconstitution of its underlying index may cause a VanEck ETF to experience increased volatility, during which time that VanEck ETF's index tracking risk may be heightened.

The VanEck Trust is a registered investment company that consists of numerous separate investment portfolios, including the VanEck ETFs. Information provided to or filed with the SEC by the VanEck Trust pursuant to the Securities Act of 1933, as amended, and the Investment Company Act of 1940, as amended, can be located by reference to SEC file numbers 333-123257 and 811-10325, respectively, through the SEC's website at <http://www.sec.gov>.

### **The VanEck® Gold Miners ETF**

The VanEck® Gold Miners ETF (the “**GDX Fund**”) seeks to track as closely as possible, before fees and expenses, the price and yield performance of the MarketVector Global Gold Miners Index (the “**Gold Miners Index**”). The Gold Miners Index is a float-adjusted modified market capitalization-weighted index that tracks the performance of companies involved primarily in the gold and silver mining industry. The GDX Fund is an exchange-traded fund that trades on the NYSE Arca, Inc. under the ticker symbol “GDX.”

### **The VanEck® Junior Gold Miners ETF**

The VanEck® Junior Gold Miners ETF (the “**GDXJ Fund**”) seeks to replicate as closely as possible, before fees and expenses, the price and yield performance of the MVIS® Global Junior Gold Miners Index (the “**Junior Gold Miners Index**”). The Junior Gold Miners Index is designed to track the performance of small-capitalization companies involved primarily in the gold and silver mining industry. The GDXJ Fund is an exchange-traded fund that trades on the NYSE Arca, Inc. under the ticker symbol “GDXJ.”

### **The VanEck® Oil Services ETF**

The VanEck® Oil Services ETF (the “**OIH Fund**”) seeks to replicate as closely as possible, before fees and expenses, the price and yield performance of the MVIS® US Listed Oil Services 25 Index (the “**Oil Services Index**”). The Oil Services Index is designed to track the performance of the largest and most liquid U.S.-listed upstream oil services companies that derive at least 50% (25% for current components) of their revenues from oil services to the upstream oil sector, including companies engaged primarily in oil equipment, oil services and/or oil drilling. The OIH Fund is an exchange-traded fund that trades on the NYSE Arca, Inc. under the ticker symbol “OIH.”

### **The VanEck® Semiconductor ETF**

The VanEck® Semiconductor ETF (the “**SMH Fund**”) seeks to replicate as closely as possible, before fees and expenses, the price and yield performance of the MVIS® US Listed Semiconductor 25 Index (the “**Semiconductor Index**”). The Semiconductor Index is designed to track the performance of the largest and most liquid U.S.-listed companies in the semiconductor industry, which only includes companies that derive at least 50% (25% for current components) of their revenues from the semiconductor segment. This includes companies engaged in the production of semiconductors and/or semiconductor equipment. The SMH Fund is an exchange-traded fund that trades on The Nasdaq Stock Market under the ticker symbol “SMH.”

## THE VANGUARD FTSE EMERGING MARKETS ETF

All information contained in this underlying supplement regarding the Vanguard FTSE Emerging Markets ETF has been derived from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by, Vanguard International Equity Index Funds (the “**Vanguard International Trust**”) and The Vanguard Group, Inc. (“**Vanguard**”). The Vanguard FTSE Emerging Markets ETF is an investment portfolio of the Vanguard International Trust. Vanguard is the investment adviser to the Vanguard FTSE Emerging Markets ETF. The Vanguard FTSE Emerging Markets ETF is an exchange-traded fund that trades on the NYSE Arca, Inc. under the ticker symbol “VWO.”

The Vanguard FTSE Emerging Markets ETF seeks to track, before fees and expenses, the performance of a benchmark index that measures the investment return of stocks issued by companies located in emerging market countries. The benchmark index is currently the FTSE Emerging Markets All Cap China A Inclusion Index. (the “**Emerging Markets Index**”). The Emerging Markets Index is a market-capitalization weighted index representing the performance of large-, mid- and small capitalization companies located in emerging markets.

The Vanguard FTSE Emerging Markets ETF employs an indexing investment approach designed to track the performance of the Emerging Markets Index. The Vanguard FTSE Emerging Markets ETF invests by sampling the Emerging Markets Index, meaning that it holds a range of securities that, in the aggregate, approximates the full Emerging Markets Index in terms of key risk factors and other characteristics. The Vanguard FTSE Emerging Markets ETF is subject to index sampling risk, which is the chance that the representative sample of securities selected for the Vanguard FTSE Emerging Markets ETF, in the aggregate, will not provide investment performance matching that of the Emerging Markets Index. In addition, the Vanguard FTSE Emerging Markets ETF has operating expenses and transaction costs while the Emerging Markets Index does not.

The Vanguard International Trust is a registered investment company that consists of numerous separate investment portfolios, including the Vanguard FTSE Emerging Markets ETF. Information provided to or filed with the SEC by the Vanguard International Trust pursuant to the Securities Act of 1933, as amended, and the Investment Company Act of 1940, as amended, can be located by reference to SEC file numbers 033-32548 and 811-05972, respectively, through the SEC’s website at <http://www.sec.gov>. For additional information regarding the Vanguard International Trust, Vanguard and the Vanguard FTSE Emerging Markets ETF, please see the Vanguard FTSE Emerging Markets ETF’s prospectus.